BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 17.01.96 Edition Test oil : ISO 4113 Combination No. : 0 402 846 067 Injection pump Pump designation : PE6P120A320RS8015 EP type number : 0 412 826 016 Governor Governer design. : RQV300...1050PA1225 Governer no. : 0 421 814 151 Cust. part No. : 11031773 : -P02 v.11/95 Customer-spec. information Customer : MME : TD122KAE Motor Power KW : 243.0 TEST BENCH REQUIREMENTS Inlet line : 3.1 Test oil inlet tenು. °C Tolerance °C 2.0 Overflow valve : 2 417 413 078 Inlet press. bar : 2.5 Tolerance bar : + 0.1 Test nozzle holde : 1 688 901 103 assembly Opening pressure 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values ____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : + 1.0 : 4.00 Prestroke mm Tolerance mm : + 0.05 Check tolerance mm : + 0.10 Rack travel in mm : 11.00 Tolerance mm : \leftarrow 0.50 Firing order : 1-5- 3- 6- 2-Phasing **: 0-60-120-**180-240 : -300 Tolerance : +- 0.50 Check tolerance *NW : **←** 0.75 Start of delivery mark Barrel no. : 1 BASIC SETTING Rated speed rpm : 700 Rack travel in mm: 9.30 : + 0.05 Tolerance am Del. quantity cm3/1000 strokes : 236.0 Tolerance cm3/1000 strokes : \leftarrow 1.0

	† Toleranse mm : +- 0.25
Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 520
Spreed	guide sleeve
spreed	travel mm : 4.67 Tolerance mm : +- 0.25
Tolerance	T Toterarice init : += 0.25
cm3/1000 strokes : 8.0	Rated speed rpm : 1310
CIRC 1000 0 C 10 (CO	guide sleeve
Check tolerance	travel mm : 11.50
cm3/1000s. : 11.0	+ Tolerance mm : +- 0.50
	+
The state of the s	
	+ GUIDE SLEEVE POSITION
Rated speed rpm : 325	+
7.00	†
Rack travel in mm: 3.80	t control lever
Tolerance mm : + 0.30 Del. quantity	position degree : - 1
cm3/1000 strokes : 23.0	Rated speed rpm : 1190
Tolerance	T Rack travel in mm: 9.50
cm3/1000 strokes : +- 3.0	Tolerance mm : + 2.50
Check tolerance	Tocci ance min
cm3/1000s. : +- 6.0	
Spreed	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	+
cm3/1 000 strokes : 5.0	+ Rated speed rpm : 700
Shack tolerance	+ Ameroid pressure
cm3/1 000 S. : 8.0	+ hPa : 1500
	+ Del. quantity
(D) CETTING OF THURSTYON DUNG	+ cm3/1000 strokes : 236.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	<pre>+ Tolerance + cm3/1000 strokes : +- 1.0</pre>
WITH GOVERNOR	theck tolerance
	cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAVEL	+ Spreed
	+ Tolerance
Rated speed rpm : 1095	+ cm3/1000 strokes : 8.0
guide staeve	+ Check tolerance
travel mm : 7.90	+ cm3/1000s. : 11.0
Tolerance man : + 0.25	+
5.4	†
Rated speed rpm : 325	CONTROL LEVED
guide sleeve travel mm : 2.09	CONTROL LEVER
Tolerance mm : +- 0.25	control lever
Toterance min . The U.25	position degree : 61.0
Rated speed rpm : 1028	tolerance degree : +- 4.0
guide sleeve	toterance degree . 4.0
travel mm : 6.85	+ control lever
Tolerance mm : + 0.25	position degree : 125.0
	+ tolerance degree : +- 4.U
Rated speed rpm : 387	tolerance degree : +- 4.0
guide sleeve	+ RATED SPEED
guide sleeve	+ RATED SPEED
guide sleeve	RATED SPEED rack travel mm : 8.30 Rated speed rpm : 1105
guide sleeve travel mm : 2.96 Tolerance mm : +- 0.25	+ RATED SPEED
guide sleeve travel mm : 2.96 Tolerance mm : +- 0.25 Rated speed rpm : 437	RATED SPEED rack travel mm : 8.30 Rated speed rpm : 1105 Tolerance 1/min : +- 5
guide sleeve travel mm : 2.96 Tolerance mm : +- 0.25	RATED SPEED rack travel mm : 8.30 Rated speed rpm : 1105

Tolerance 1/min	• +- 15 1	
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : +- 0.50	Pressure hPa : 520 rack travel mm : 1.30 Tolerance mm : +- 0.20
		Pressure hPa : 290 rack travel mm : 0.25 Tolerance mm : +- 0.05
LOW IDLE		
	<u> </u>	- FUEL DELIVERY CHARACTERISTICS
control lever position degree tolerance degree		Aneroid pressure
control lever	1	Rated speed rpm : 700
position degree tolerance degree		- Del. quantity - cm3/1000 strokes : 188.0 - Tolerance
Setting point w/c	out bumper spring	cm3/1000 strokes : +- 1.0
Rated speed rpm	: 225	- Check tolerance - cm3/1000S. : + 4.0
CRT mm min.	: > 5.40	•
Testing:	1	STARTING FUEL DELIVERY
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 3.80 : + 0.30	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 150.0 Tolerance
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 700 : 9.30 : +- 0.05	cm3/1000 strokes : + 15.0 Check tolerance cm3/1000s. : + 19.0
ANEROID/ALTITUDE COMPENSATOR TEST		- LOW IDLE
CONTENDATION TEO	+	Rated speed rpm : 325
SETTING	Ţ	Rack travel in mm : 3.80
Rated speed rpm	: 500	Tolerance mm : + 0.30 Del. quantity
Pressure hPa	: 1500	cm3/1000 strokes : 23.0
rack travel mm Tolerance mm	: 9.30 : +- 0.05	Tolerance : + 3.0 cm3/1000 strokes : +- 3.0
Rated speed rpm Pressure hPa	: 500	Check tolerance cm3/1000s.: +- 6.0 Spreed
rack travel mm Tolerance mm	: 7.80 : + 0.10	Tolerance cm3/1000 strokes : 5.0
MEASUREMENT	‡	Check tolerance cm3/1000s. : 8.0
Rated speed rpm	: 500	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 12.11.96 : ISO 4113

Combination No. : 9 407 083 282

Injection pump

Pump designation : PES6A90D320RS2605 EP type number : 9 400 083 078

Governor

Governer design. : RSV325...1400A2B2096

Governer no.

: 9 420 083 168

Cust. part No. :

Customer-spec. information

Customer

: MWM

Motor

: TD 229-6

Power KW

: 95.6

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

1.5

Test lines : 1 680 750 003

Outside diameter :

6.0

x inside diameter : 2.0 x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm Tolerance mm

: + - 0.05

Check

tolerance mm : + - 0.10

Rack travel in mm : 10.50

Tolerance mm

: +- 1.50

Firing order

: 1-5- 3- 6- 2-

Phasing

: **U-60-120-180-**240

: -300

Tolerance

: **←** 0.50

Check

tolerance 'NW

: + - 0.75

Beginning of delivery differende

and maximum rack

travel

10,50

Tolerance mm

: +- 1.50

Difference ° CS :

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 8.05 Tolerance mm

: **←** 0.05

Del. quantity

cm3/1000 strokes : 65.5

A05

Tolerance	4.	Spreed
cm3/1000 strokes	: +- 0.5	Tolerance
	1	cm3/1000 strokes : 3.0
Check tolerance		Check tolerance
cm3/1000s.	: +- 2.5	cm3/1000s. : 7.0
CHLO TOOOS.	• • • • • • • • • • • • • • • • • • • •	tm3/10005. : /.U
Spreed	†	
	+	
Tolerance		CONTROL LEVER
cm3/1000 strokes	: 3.0	
	+	control lever
Check tolerance	+	position degree : 56.0
cm3/1000S.	: 7.0	tolerance degree : +- 4.0
	<u> </u>	-
	+	RATED SPEED
	1	rack travel mm : 7.00
Rated speed rom	: 325	Rated speed rpm : 1445
	1	Tolerance 1/min : +- 5
Rack travel in mm		TOTAL TAINING TO THE STATE OF T
Tolerance mm	· · · · · · · · · · · · · · · · · · ·	nock thought the 100
	0.10	rack travel mm : 4.00
Del. quantity	11.5	Rated speed rpm : 1480
cm3/1000 strokes	: 11.5 +	Tolerance 1/min : + 15
Tolerance	†	
cm3/1000 strokes	: +- 2.0 +	rack travel mm : 0.85
Check tolerance	+	Tolerance mm : +- 0.55
cm3/1000s.	: +- 4.0 +	Rated speed rpm : 1650
Spreed	 	
Tolerance	1	
cm3/1000 strokes	: 4.5	
Check tolerance	1	
cm3/1000s.	: 7.0	LOW IDLE
CIII 7 10003.	· 7.0	LOW TOLE
	Ţ	
(B) SETTING OF IN	LECTION DUMO	anatana kalanan
- · · · · · · · · · · · · · · · · · · ·	JESTION PONE	control lever
WITH GOVERNOR	†	position degree : 23.0
	†	tolerance degree : +- 4.0
	†	
		Setting point w/out bumper spring
GUIDE SLEEVE POSI	TION	
	+	Rated speed rpm : 325
	+	rack travel mm : 6.00
control lever	 	Tolerance mm : + 0.10
position degree	: - 3	
Rated speed rpm		Rated speed rpm : 100
	1	And a first and them the state of the state
Rack travel in mm	1 : 0.65	CRT mm min. : > 19.00
Tolerance mm		CASE 1000 10111111111111111111111111111111
TO COL GITTE THE	T	Testing
		Testing:
FULL LOAD DELTHED	V AT FULL LOAD STOD	Dated award non-
LUTT TOWN DEFTACK	Y AT FULL LOAD STOP +	Rated speed rpm : 325
	+ 100	rack travel mm : 6.50 Tolerance mm : + 0.10
Rated speed rpm		Tolerance mm : + 0.10
Aneroid pressure	+	
hPa	: - +	rack travel mm : 2.00
Del. quantity	1	Rated speed rpm : 650
cm3/1000 strokes	: 65.5	Tolerance 1/min : + 30
Tolerance	1	
cm3/1000 strokes	: + 0.5	
Check tolerance	· · · · · · T	TORQUE CONTROL
	: + 2.5	
cm3/1000s.	· - 2.3	Rated speed rpm : 1400

east, associations	. one
rack travel mm Tolerance mm	: 3.05 : +- 0.05
Rated speed rpm	: 500
rack travel mm Tolerance mm	: 8.95 : +- 0.05
Rated speed rpm rack travel mm	: 800 : 8.55
Tolerance mm	: + 0.15
Rated speed rpm rack travel mm	: 1200 : 8.10
Tolerance mm	: + 0.10
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes Tolerance	: 51.0
cm3/1900 strokes	: +- 1.5
Check tolerance cm3/1000s.	7.5
	: +- 3.5
Spreed Tolerance	: +- 3.5
Spreed Tolerance cm3/1000 strokes	
Spreed	
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	4.0
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa	: 4.0 : 8.0 : -
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	: 4.0 : 8.0 : 800
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 4.0 : 8.0 : - : 800 : 53.0
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 4.0 : 8.0 : 800
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 4.0 : 8.0 : - : 800 : 53.0
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 4.0 : 8.0 : 800 : 53.0 : + 1.5 : + 3.5
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 4.0 : 8.0 : 800 : 53.0 : + 1.5

LOW IDLE			
Rated speed rpm	:		325
Rack travel in mm Tolerance mm Del. quantity	:	+-	6.50 0.10
cm3/1000 strokes	:		11.5
Tolerance cm3/1000 strokes Check tolerance	:	+-	2.0
cm3/1000s. Spreed	:	+	4.0
Tolerance cm3/1000 strokes Check tolerance	:		4.5
cm3/1000s.	:		7.0

End of test specification sheet

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.04.94 Test oil : ISO 4113

Combination No. : 0 402 796 201

Injection pump

Pump designation : PES6H120/720/3LS1001

EP type number : 0 412 726 201

Governor

Governer design. : RE33

Governer no. : 0 421 890 354

Cust. part No. :

Customer-spec. information : MAN

Customer

Motor : D2866LF14

TEST BENCH REQUIREMENTS

Inlet line : 4.1 EHAB

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 082

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 600 x length mm

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Firing order : 6-2-4-1-5-

Phasing : 0-60-120-180-240

: -300

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point (P, R and H pump)

Uact V : 3.100 : 13.00 3.100 CRT mm Tolerance mm : +/- 0.05

Check

tolerance mm : +/- 0.10

Check value (P, R and H pump)

Uact V 1,700 CRT mm 6.15

Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Setting point (M pump) Uact V : 3.100 CRT mm : 12.50 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10 Check value (M pump)	Uact V : 3.350 Prestroke solenoid Stroke mm : 10.00 Del. quantity cm3/1000 strokes : 332.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 FUEL DELIVERY CHARACTERISTICS
Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30	Rated speed rpm : 1000 Uact V : 3.290 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 309.0
Stop position Uact V : Value with deenergised adjusting magnet and control rod in	Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0
stop position. CRT mm : 0.75 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.35 ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)	Rated speed rpm : 500 Uact V : 2.900 Prestroke solenoid Stroke imm : 9.20 Del. quantity cm3/1000 strokes : 304.0 Check tolerance cm3/1000S. : + 6.0
Test with control rod in stop position Engine speed min-1: 60 Amplitude V: 1.4 Tolerance V: +/- 0.6 Check tolerance V: +/- 1.20	Rated speed rpm : 500 Uact V : 2.100 Prestroke solenoid Stroke mm : 6.20 Del. quantity cm3/1000 strokes : 168.0 Check tolerance cm3/1000S. : +- 6.0
Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4	Rated speed rpm : 750 Uact V : 1.450 Prestroke solenoid Stroke mm : 10.00 Del. quantity cm3/1000 strokes : 65.0
(C) INJECTION PUMP WITH POSITIONER TEST POINT V1 Rated speed rpm : 750	Check tolerance cm3/1000S. : +- 6.0

Rated speed rpm	:		300 1,520	
Uact V Tolerance Volt	:	+-	0.060	
Check tolerance				
Volt Prestroke solenoid	4:	+-	0.060	
Stroke mm	:		7.20	
Del. quantity cm3/1000 strokes			30.0	
Tolerance	•		30.0	
cm3/1000 strokes	:	+-	3.0	
Spreed Tolerance				
cm3/1000 strokes	:		8.0	
Check tolerance			42.0	
cm3/1000s.	:		12.0	

STARTING FUEL DELIVERY

Rated speed rpm Uact V	:	100 2.450
Prestroke solenoi Stroke mm Del. quantity	: :	7.00
cm3/1000 strokes Check tolerance	:	173.0
cm3/1000s.	; +	- 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 21.01.97

Test oil

: ISO 4113

Combination No. : 0 402 648 932

Injection pump

Pump designation : PE8P12OA32OLS7849

EP type number : 0 412 628 864

Governor

Governer design. : RQV300...1050PA1034

Governer no. : 0 421 813 993

Cust. part No. :

Customer-spec. information

Customer : LIEBHERR

Motor

: D 9308 TI

Power KW

: 360.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve

: 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

Tolerance bar

: + 1.5

Test lines

: 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm

4.55

Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm: + 1.50

Firing order : **1-8-7**-2-6

: - 3- 5- 4

Phasing : 0-45-90-135-180 : -225-270-315

: +- 0.50

Check

Tolerance

tolerance "NW

: +- 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.05

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 263.0

Tolerance cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 4.0

Spreed

Tolerance cm3/1000 strokes	: 5.0	+ control lever + position degree : - 1
Check tolerance cm3/1000s.	: 9.0	+ Rated speed rpm : 1185
		Rack travel in mm: 14.00 Tolerance mm: +- 1.30
Rated speed rpm	: 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in ma Tolerance mm Del. quantity		Rated speed rpm : 1050 Aneroid pressure
cm3/1000 strokes Tolerance	: 21.0	hPa : 1500 Del. quantity
cm3/1000 strokes		+ cm3/1000 strokes : 263.0
Check tolerance cm3/1000s. Spreed		Tolerance + cm3/1000 strokes : +- 1.0 Check tolerance
Tolerance cm3/1000 strokes	: 6.0	cm3/1000s. : +- 4.0 Spreed
Check tolerance cm3/1000s.		Tolerance cm3/1000 strokes : 5.0
		Check tolerance cm3/1000s. : 9.0
(B) SETTING OF IN	NJECTION PUMP	
GUIDE SLEEVE TRA	\/FI	CONTROL LEVER
		control lever
Rated speed rpm guide sleeve		+ position degree : 107.0 + tolerance degree : +- 4.0
travel mm Tolerance mm	: 6.60 : +- 0.30	+ RATED SPEED
Rated speed rpm guide sleeve	: 350	rack travel mm : 14.00 Rated speed rpm : 1105 Tolerance 1/min : +- 5
travel mm		+
Tolerance mm	: +- 0.20 : 405	rack travel mm : 4.00 Rated speed rpm : 1215 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve		+
travel mm Tolerance mm	: 2.65 : +- 0.25	rack travel mm : 0.70 Tolerance mm : +- 0.70 Rated speed rpm : 1300
Rated speed rpm guide sleeve	: 550	T Nated Speed (pill . 1300
travel mm	: 4.40 : + 0.20	
Tolerance mm		LOW IDLE
Rated speed rpm guide sleeve	: 1118	‡
travel mm Tolerance mm	: 10.50 : +- 0.10	control lever position degree : 72.0 tolerance degree : +- 4.0
GUIDE SLEEVE POST	ITION	+ Setting point w/out bumper spring
		Rated speed rpm : 250

CRT mm min.	: > 8.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.30 : +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 460 : + 30
Rated speed rpm	: 385
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 15.05 : +- 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	a haman amin'ny fivondronan'i anim'ny faritr'i Amin'ny any isan'i amin'ny amin'ny amin'ny amin'ny amin'ny amin'ny
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 700 : 1500 : 15.05 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 700 : - : 11.80 : +- 0.10
MEASUREMENT	
Rated speed rpm	: 700
Pressure hPa rack travel mm Tolerance mm	: 870 : 12.60 : + 0.10
Pressure hPa rack travel mm Tolerance mm	: 1130 : 14.15 : + 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 270
Check speed 1/min Check	: > 80
speed 1/min	: < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	
hPa	: -
Rated speed rpm	: 700
Del. quantity	
cm3/1000 strokes	: 194.5
Tolerance	
cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000s.	: +- 4.0
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s.	: 12.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated, rack must reach start position in max. control lever setting.

Rated speed rpm rack travel mm Tolerance mm	:	+	100 20.50 0.50
Del. quantity cm3/1000 strokes Tolerance	:		165.0
cm3/1000 strokes Check tolerance	:	+-	10.0
cm3/1000s.	•	+-	14.0

LOW IDLE

Rated speed rpm	:	350
Rack travel in mm Tolerance mm Del. quantity	: +-	5.30 0. 10
cm3/1000 strokes	:	21.0
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +-	6.0
Spreed Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000S.	:	10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.01.97 Test oil : ISO 4113

Combination No. : E 040 086 800

Injection pump

Pump designation: PES4A100D320/3RS35...

EP type number : 0 041 083 700

Governor

Governer design. : RSV400...1100AOC....

: 0 042 088 200 Governer no.

Cust. part No. : TATA-CUMMINS

Customer-spec. information

: 4BT-90 PS/2200 Motor

Power KW : 66.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C

: 1 417 413 047 Overflow valve

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.10
Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-240

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 6.60 Tolerance : + 0.10

Check

tolerance °NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.50 : +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 93.3	+ Aneroid pressure + hPa : 1000
Tolerance cm3/1000 strokes : +- 1.0	+ Del. quantity - cm3/1000 strokes : 93.3 - Tolerance
Check tolerance cm3/1000s. : +- 3.0	+ cm3/1000 strokes : +- 1.0 + Check tolerance + cm3/1000S. : +- 3.0
Spreed	Spreed Tolerance cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	
and the state with the time and the state of	+ CONTROL LEVER
Rated speed rpm : 400	control lever position degree : 106.0 tolerance degree : +- 4.0
Rack travel in mm : 999.00 Tolerance mm : +- 0.10 Del. quantity	+ RATED SPEED + rack travel mm : 11.50
cm3/1000 strokes : 10.7 Tolerance cm3/1000 strokes : +- 2.0	Rated speed rpm : 1145 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : + 4.5	rack travel mm : 4.00 Rated speed rpm : 1250
Spreed Tolerance cm3/1000 strokes : 6.0	Tolerance 1/min : +- 5 rack travel mm : 0.85
Check tolerance cm3/1000s. : 8.0	Tolerance mm : +- 0.55 Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1260 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LON IDLE
control lever position degree : FREE Rated speed rpm : 800	control lever position degree : 86.0 tolerance degree : + 4.0
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Setting point w/out bumper spring
governor spring pre-tension click setting x : 4.50	Rated speed rpm : 400 rack travel mm : 999.00 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1100	CRT mm min. : > 19.00
	Testing:

Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min	: 400 : 999.00 : ← 0.10 : 2.00 : 999 : ← 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 1100 : 12.50 : +- 0.05 : 750 : 999.00 : +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING Rated speed rpm Pressure hPa	: 750 : 1000
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 750 : - : 999.00 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 750
Pressure hPa rack travel mm Tolerance mm	: 650 : 999.00 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 450 : 999.00 : +- 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1000 : 750 : 98.5 : +- 2.0 : +- 4.0
5m2 - 1 44401	

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 750 : 80.5 : +- 1.0 : +- 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm	: 400
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.07.96 Test oil : ISO 4113

Combination No. : 0 402 996 306

Injection pump

Pump designation : PES6P120A720RS8512

: -1

: 0 412 926 209 EP type number

Governor

Governer design. : RE30

: 0 421 890 023 Governer no.

Cust. part No. : 313 GC 5217 P3

Customer-spec. information : MACK Customer Motor : E7

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 2 417 413 084

Inlet press. bar : Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar 1.5

: 1 680 750 008 Test lines

Outside diameter : 6.0

x inside diameter : 2.0 x length mm 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 4.20 Tolerance mm : +- 0.05 Check

tolerance mm : + 0.10

Rack travel in mm : 12.00 Tolerance mm : +- 0.20

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance $^{\circ}NW$: +- 0.75

Start of delivery blocking

Tolerance : +- 0.50

Check

tolerance °NW : + - 0.75

Barrel no. : 1

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION	Test with control rod in stop position
Engine speed min-1: 0	+ Engine speed min-1: 60 + Amplitude V : 1.4 + Tolerance V : +/- 0.6
Setting point	+ Check
(P, R and H pump)	+ tolerance V : +/- 1.20
Uact V : 3.1GO	Engine speed min-1: 600
CRT mm : 13.00	+ Difference
Tolerance mm : +/- 0.05	+ Amplitude to
Check	+ Amplitude V : max.1.4
tolerance mm : +/- 0.10	+
Check value	<u> </u>
(P, R and H pump)	(C) INJECTION PUMP WITH POSITIONER
Uact V : 1.700	TEST POINT V1
Uact V : 1.700 CRT mm : 6.15	Rated speed rpm : 900
Tolerance mm : +/- 0.25	Uact V : 3.050
Check	Del. quantity
tolerance mm : +/- 0.30	+ cm3/1000 strokes : 310.0
	+ Tolerance
	cm3/1000 strokes : +- 1.0
Setting point	- Check tolerance
(M pump)	+ cm3/1000s. : +- 5.0 + Spreed
Uact V : 3.100	Tolerance
CRT mm : 12.50	- cm3/1000 strokes : 8.0
Tolerance mm : +/- 0.05	Check tolerance
Check	+ cm3/1000s. : 14.0
tolerance mm : +/- 0.10	FUEL DELIVERY CHARACTERISTICS
Check value	
(M pump)	Rated speed rpm : 625
	+ Uact V : 3.260
Uact V : 1.700	† Del. quantity
CRT mm : 5.50	+ cm3/1000 strokes : 392.0
Tolerance mm : +/- 0.25	+ Tolerance
Check tolerance mm : +/- 0.30	- cm3/1000 strckes : - 10.0 - Check tolerance
toter arte imir	- cm3/1000s. : +- 12.0
Stop position	Spreed
	+ Tolerance
Uact V : Value with	+ cm3/1000 strokes : 16.0
deenergised adjusting magnet	- Check tolerance
and control rod in	- cm3/1000s. : 18.0
stop position. CRT mm : 0.75	TEST POINT L1
Tolerance mm : +/- 0.25	T IFOLIATION FI
Check	Rated speed rpm : 325
tolerance mm : +/- 0.35	+ Uact V : 1.310
	Tolerance Volt : +- 0.060
	- Check tolerance
ENGINE-SPEED SENSOR	+ Volt : + 0.070
(All P and R pumps not H and M pumps)	+ Del. quantity + cm3/1000 strokes : 33.0
ת פווע ויו שעווועס	+ cm3/1000 strokes : 33.0

Tolerance cm3/1000 strokes : + 3.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 14.0

STARTING FUEL DELIVERY

Rated speed rpm 100 4.700 Uact V Del. quantity cm3/1000 strokes : 195.0 Tolerance cm3/1000 strokes : +- 19.0 Check tolerance cm3/1000s. : +- 22.0 Spreed Tolerance cm3/1000 strokes : 40.0 Check tolerance cm3/1000s. 50.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.03.97 Test oil : ISO 4113

Combination No. : 0 400 074 886

Injection pump

Pump designation : PES4M55C32ORS167 EP type number : 0 410 054 960

Governor

Governer design. : RSF400/2000M55-7

Governer no. : 0 420 021 268

Cust. part No. :

Customer-spec. information Customer : DPICO

Motor : OM601-2.31 (Dom)

Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 638 901 111

Opening pressure

bar : 148.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.05
Tolerance mm : +- 0.05
Check

uneck

tolerance mm : + 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

Phasing : J-90-180-270

Start of delivery blocking

*NW after s.o.d. : 15.50 Tolerance : + 0.20 Check

леск

tolerance °NW : +- 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 38.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 1.5

Spreed

Tolerance

cm3/1000 strokes : 2.5

Check tolerance cm3/1000s. : 3.0	CRT mm max. : 1.45
Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 6.5 Tolerance	LOW IDLE
cm3/1000 strokes : +- 0.5 Spreed Tolerance	control lever position degree : 14.0 tolerance degree : +- 2.0
cm3/1000 strokes : 1.0	SET IDLE AUXILIARY SPRING
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 500 rack travel mm : 3.50 Tolerance mm : + 0.10
IDLE STAGE	Load pick-up
Pack travel in mm : 6.25 Tolerance mm : +- 0.25	Rated speed rpm : 250 rack travel mm : 12.20 Rated speed rpm : 1000
FULL LOAD DELIVERY AT FULL LOAD STOP	+ CRT mm max. : 1.45
Rated speed rpm : 1000 Ref. pressure ALDA / ADA hPa : - Del. quantity	rack travel mm : 5.10 Rated speed rpm : 400
cm3/1000 strokes : 38.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 1.5 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0	TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 12.15 Tolerance mm : + 0.05 Rated speed rpm : 1800 rack travel mm : 11.90 Tolerance mm : + 0.10
RATED SPEED	Rated speed rpm : 2000 rack travel mm : 11.80 Tolerance mm : + 0.10
position degree : 50.0	<u> </u>
Rated speed rpm : 2250 rack travel mm : 7.70 Tolerance mm : + 0.25	FUEL DELIVERY CHARACTERISTICS Ref. pressure ALDA / ADA hPa : -
Rated speed rpm : 2550 rack travel mm : 0.50 Tolerance mm : +- 0.50	ALDA / ADA hPa : - Rated speed rpm : 1800 Del. quantity cm3/1000 strokes : 40.8 Tolerance
SET IDLE CONTROL LEVER POSITION	+ cm3/1000 strokes : +- 0.8 + Check tolerance + cm3/1000s. : +- 1.8
Rated speed rpm : 1000	+ Spreed

Tolerance cm3/1000 strokes	: 2.5	
Check tolerance cm3/1000s.	: 3.0	LOW IDLE
Ref. pressure ALDA / ADA hPa Rated speed rpm Spreed Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 41.0 : +- 1.0 : +- 2.0	Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 7.8 Check tolerance cm3/1000s. : +- 2.3 Spreed Check tolerance cm3/1000s. : 1.5
cm3/1000 strokes Check tolerance	Ì	
cm3/1000s. HIGH IDLE	: 3.0	control lever position degree : > 47.00
Ref. pressure ALDA / ADA hPa Rated speed rpm rack travel mm	: - : 2250 : 7.70	control lever position degree : < 44.50
Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: +- 0.25	SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION
cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: +- 2.0 : +- 3.0	<pre>control lever position degree : 14.0 tolerance degree : + 2.0</pre>
Tolerance cm3/1000 strokes	: 2.5	Rated speed rpm : 425
Check tolerance cm3/1000s.	: 3.0	Rack travel in mm : 8.80 Tolerance mm : + 0.80 Del. quantity
STARTING FUEL DEL	IVERY	cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : + 3.5
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 21.60 : + 1.50	Check tolerance cm3/1000s. : + 4.5 Vacuum hPa : 400.0
cm3/1000 strokes Check tolerance	+	TESTING PNEUMATIC SHUTOFF DEVICE
cm3/1000s. Spreed Tolerance	: + 5.0	Rated speed rpm : 400 Vacuum hPa : -450.0
cm3/1000 strokes Check tolerance cm3/1000s.	: 6.0	
	1	

End of test specification sheet

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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 06,03,97 Edition Test oil : ISO 4113

Combination No. : 0 400 075 923

Injection pump

Pump designation : PES5M55C320RS168 EP type number : 0 410 055 978

Governor

Governer design. : RSF385/2000M55-8 Governer rio. : 0 420 021 269

Cust. part No. :

Customer-spec. information Customer : DPICO

: OM602-2.91 (Dom) Motor

Power KW : 69.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

148.5 Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.05 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 21.00 : +- 1.00 Tolerance mm

Firing order : 1-2-4-5-3

: 0-72-144-216-288 Phasing

Start of delivery blocking

*NW after s.o.d. : 15.50 Tolerance : +- 0.20

Check

: ← 0.30 tolerance "NW

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1909

Rack travel in mm : 12.15 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 38.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance cm3/1000s.

: +- 1.5

Spreed

Tolerance

cm3/1000 strokes : 2.5

Check tolerance +	
cm3/1000s. : 3.0	
+	SET IDLE CONTROL LEVER POSITION
Rated speed rpm : 385	
Production of the second secon	Rated speed rpm : 1000
Rack travel in mm: 5.60 + O.10	CDT mm may 4 / 5
Del. quantity	CRT mm max. : 1.45
cm3/1000 strokes : 9.0	
Tolerance	LOW IDLE
cm3/1000 strokes : +- 0.5	
Spreed	
Tolerance	control lever
cm3/1000 strokes : 1.0	position degree : 14.0
†	tolerance degree : +- 2.0
(B) SETTING OF INJECTION PUMP	Setting point w/out bumper spring
WITH GOVERNOR	Rated speed rpm : 385
4111 3372.335	rack travel mm : 5.60
IDLE STAGE	SET IDLE AUXILIARY SPRING
+	_ , , ,
	Rated speed rpm : 500
Rack travel in mm: 6.25	rack travel mm : 3.80
Tolerance mm : + 0.25	Tolerance mm : +- 0.10
	Load pick-up
FULL LOAD DELIVERY AT FULL LOAD STOP	aras prof. ap
+	Rated speed rpm : 250
Rated speed rpm : 1000	rack travel mm : 12.20
Ref. pressure	200
ALDA / ADA hPa : -	Rated speed rpm : 1000
Del. quantity + cm3/1000 strokes : 38.5 +	CRT mm max. : 1.45
Tolerance	CAL UNIO UNIX 1.45
cm3/1000 strokes : +- 0.5	rack travel mm : 5.60
Check tolerance	Rated speed rum : 385
cm3/1000s. : + 1.5	· · · ·
Spreed	
Tolerance +	TARALIE ANITRAL
cm3/1000 strokes : 2.5 + Check tolerance +	TORQUE CONTROL
cm3/1000s. : 3.0	Rated speed rpm : 1000
I 3.0	rack travel mm : 12.15
	Tolerance mm : + 0.05
RATED SPEED	TO COT GET TO CHARLES TO COUNTY
+	Rated speed rpm : 1800
+	rack travel mm : 12.00
control lever +	Tolerance mm : $+$ 0.10
position degree : 50.0	D. J. al. and J. and D. C.
Total aread page : 2250	Rated speed rpm : 2000
Rated speed rpm : 2250 + rack travel mm : 7.70 +	rack travel mm : 11.80 Tolerance mm : +- 0.10
Tolerance mm : + 0.25	TOTAL THE TANK THE THE TANK TH
Total diffe itsii	
Rated speed rpm : 2550	
rack travel mm : 0.50	
Tolerance mm : + 0.50	FUEL DELIVERY CHARACTERISTICS

Ref. pressure		+ Tolerance
ALDA / ADA hPa	: -	+ cm3/1000 strokes : +- 4.0
Rated speed rpm	: 1800	+ Check tolerance
Del. quantity		+ cm3/1000s. : +- 5.0
cm3/1000 strokes	: 40.8	+ Spreed
Tolerance		+ Tolerance
cm3/1000 strokes	; +- 0.8	+ cm3/1000 strokes : 6.0
Check tolerance		+ Check tolerance
cm3/1000s.	: + 1.8	- cm3/1000s. : 6.0
Spreed	• • • • • • • • • • • • • • • • • • • •	1 (1137 10000)
Tolerance		\perp
cm3/1000 strokes	; 2.5	1
Check tolerance		
cm3/1000s.	; 3.0	LOW IDLE
	. 5.5	1 101
Ref. pressure		Rated speed rpm : 385
ALDA / ADA hPa		Del. quantity
Rated speed rpm		+ cm3/1000 strokes : 10.3
Spreed	. 2000	- Check tolerance
Del. quantity		+ cm3/1000s. : +- 2.3
cm3/1000 strokes	: 41.0	+ Spreed
Tolerance	. 41.0	Check tolerance
cm3/1000 strokes	: + 1.0	+ cm3/1000s. : 1.5
Check tolerance		1.5
cm3/1000s.	: + 2.0	1
Spreed		
Tolerance		<u>i</u>
cm3/1000 strokes	: 2.5	1
Check tolerance		\mathbf{I}
cm3/1000s.	: 3.0	control lever
	. 3.0	position degree : > 47.00
		i
HIGH IDLE		+ control lever
112011 2022		position degree : < 44.50
Ref. pressure		position degree : 1 44.50
ALDA / ADA hPa	• –	
Rated speed rpm	2250	SETTING PNEUMATIC FAST IDLE (PLA)
rack travel mm	: 7.70	+ (PLA) POSITION
Tolerance mm		1 001/100
Del. quantity	1 . 0162	1
cm3/1000 strokes	: 25.5	† control lever
Tolerance	. 6010	position degree : 14.0
	: + 2.0	
cm3/1000 strokes	: +- 2.0	tolerance degree : +- 2.0
cm3/1000 strokes Check tolerance		tolerance degree : +- 2.0
cm3/1000 strokes Check tolerance cm3/1000s.		
cm3/1000 strokes Check tolerance		tolerance degree : +- 2.0 Rated speed rpm : 400
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: +- 3.0	tolerance degree : +- 2.0 Rated speed rpm : 400 Rack travel in mm : 8.50
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: +- 3.0	tolerance degree : +- 2.0 Rated speed rpm : 400 Rack travel in mm : 8.50 Tolerance mm : +- 0.80
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: +- 3.0	tolerance degree : +- 2.0 Rated speed rpm : 400 Rack travel in mm : 8.50 Tolerance mm : +- 0.80 Del. quantity
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: ← 3.0 : 2.5	tolerance degree : +- 2.0 Rated speed rpm : 400 Rack travel in mm : 8.50 Tolerance mm : +- 0.80 Del. quantity cm3/1000 strokes : 22.0
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: ← 3.0 : 2.5	tolerance degree : +- 2.0 Rated speed rpm : 400 Rack travel in mm : 8.50 Tolerance mm : +- 0.80 Del. quantity
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 3.0 : 2.5 : 3.0	tolerance degree : + 2.0 Rated speed rpm : 400 Rack travel in mm : 8.50 Tolerance mm : + 0.80 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 3.5
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: + 3.0 : 2.5 : 3.0	tolerance degree : +- 2.0 Rated speed rpm : 400 Rack travel in mm : 8.50 Tolerance mm : +- 0.80 Del. quantity cm3/1000 strokes : 22.0 Tolerance
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. STARTING FUEL DEL	: + 3.0 : 2.5 : 3.0	tolerance degree : + 2.0 Rated speed rpm : 400 Rack travel in mm : 8.50 Tolerance mm : + 0.80 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 3.5 Check tolerance cm3/1000s. : + 4.5
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. STARTING FUEL DEL Rated speed rpm	: + 3.0 : 2.5 : 3.0 IVERY : 100	tolerance degree : +- 2.0 Rated speed rpm : 400 Rack travel in mm : 8.50 Tolerance mm : +- 0.80 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : +- 3.5 Check tolerance cm3/1000s. : +- 4.5
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. STARTING FUEL DEL Rated speed rpm rack travel mm	: ← 3.0 : 2.5 : 3.0 IVERY : 100 : 21.60	tolerance degree : + 2.0 Rated speed rpm : 400 Rack travel in mm : 8.50 Tolerance mm : + 0.80 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 3.5 Check tolerance cm3/1000s. : + 4.5
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm	: + 3.0 : 2.5 : 3.0 IVERY : 100	tolerance degree : + 2.0 Rated speed rpm : 400 Rack travel in mm : 8.50 Tolerance mm : + 0.80 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 3.5 Check tolerance cm3/1000s. : + 4.5
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. STARTING FUEL DEL Rated speed rpm rack travel mm	: + 3.0 : 2.5 : 3.0 IVERY : 100 : 21.60 : + 1.50	tolerance degree : + 2.0 Rated speed rpm : 400 Rack travel in mm : 8.50 Tolerance mm : + 0.80 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 3.5 Check tolerance cm3/1000s. : + 4.5

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 385 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 10,03,97

Test oil

: ISO 4113

Combination No. : 0 402 996 307

Injection pump

Pump designation : PES6P120A720RS8512

: -2

EP type number

: 0 412 926 212

Governor

Governer design. : RE30

Governer no.

: 0 421 890 024

Cust. part No. : CCEP 5156

66-242

Customer-spec. information

Customer : RENAULT V.I.

Motor

: 062465A42B42C42

TEST BENCH REQUIREMENTS

Inlet line

: 4.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve

: 2 417 413 084

Inlet press. bar :

3.0

Tolerance bar

: +-0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

208.5

Tolerance bar

: **←** 1.5

Test lines

: 1 680 750 008

Outside diameter :

6.0

x inside diameter : 2.0 x length mm :

600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm

4.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 12.00

: + 0.20 Tolerance mm

Firing order : 1-5- 3- 6- 2-

: 4

Phasing : **0-60**-120-180-240

: -300

1

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

*NW after s.o.d. : -0.15

: + 0.50Tolerance

Check

tolerance *NW : + 0.75

Barrel no. :

Beginning of delivery differende

betw. rack trav.

20.50

801

and maximum rack travel : Difference * CS :

12.00 3.10

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point (P, R and H pump)

Uact V : 3.100 CRT mm : 13.00 Tolerance mm : ÷/- U.05

Check

tolerance mm : +/- 0.10

Check value (P, R and H pump)

Uact V : 1.700 CRT mm : 6.15 Tolerance mm : +/- 0.25

Check

tolerance mm : ± -0.30

Setting point (M pump)

Uact V : 3.100 CRT mm : 12.50 Tolerance mm : +/- 0.05

Check

tolerance mm : +/- 0.10

Check value (M pump)

Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25

Check

tolerance mm : +/- 0.30

Stop position

Uact V : Value with

deenergised adjusting magnet

and control rod in

stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25

Check

tolerance mm : ± -0.35

ENGINE-SPEED SENSOR
(All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min-1: 60
Amplitude V: 1.4
Tolerance V: +/- 0.6
Check

tolerance V : +/- 1.20

Engine speed min-1: 600

Difference Amulitude to

Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 900 Uact V : 3.050

Del. quantity

cm3/1000 strokes : 310.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm $\mathbb{Z}/1000$ s. : \leftarrow 5.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 14.0 FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 625 Uact V : 3.260

Del. quantity

cm3/1000 strokes : 392.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 12.0

Spreed

Tolerance cm3/1000 strokes :

16.0

Check tolerance

cm3/1000s. : 18.0

TEST POINT L1

325 Rated speed rpm 1.310 Uact V Tolerance Volt : + 0.060Check tolerance Volt : + 0.070Del. quantity cm3/1000 strokes : 33.0 Tolerance cm3/1000 strokes : + 3.0Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 14.0

STARTING FUEL DELIVERY

Rated speed rpm 100 Uact V 4.700 Del. quantity cm3/1000 strokes : 195.0 Tolerance cm3/1000 strokes : \leftarrow 19.0 Check tolerance cm3/1000s. : + 22.0 Spreed Tolerance cm3/1000 strokes : 40.0 Check tolerance cm3/1000s. 50.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.02.97 Test oil : ISO 4113

Combination No. : 9 400 093 226

Injection pump

Pump designation : PES6A80D410RS2755 EP type number : 9 400 093 005

Governor

Governer design. : RSV325...1150A1C1168

: L

Governer no. : 9 420 083 293

Cust. part No. :

Customer-spec. information

Customer : DEUTZ-ARGENTINA

Motor : F6L913 Power KW : 96.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 1.95
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 9.35
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 54.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : \leftarrow 2.0

Spreed

Tolerance cm3/1000 strokes : 2.5 Check tolerance	- Check tolerance - cm3/1000s. : 4.0
cm3/1000s. : 4.0	- CONTROL LEVER
	-
Rated speed rpm : 325	- control lever - position degree : 118.0 - tolerance degree : +- 4.0
Rack travel in mm: 6.50 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 7.5 Tolerance	- - RATED SPEED - rack travel mm : 8.30 - Rated speed rpm : 1195
cm3/1000 strokes : + 1.5 Check tolerance	- Tolerance 1/min : +- 5 - - rack travel mm : 4.00
cm3/1000s. : + 3.5 Spreed Tolerance	- Rated speed rpm : 1230 - Tolerance 1/min : +- 15
cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed spm : 1380
	насец проец : ри — . — гарь -
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- LOW IDLE
GUIDE SLEEVE POSITION	- - control lever - position degree : 81.0 - tolerance degree : +- 4.0
control lever position degree : - 3 Rated speed rpm : 800	Setting point w/out bumper spring
Rack travel in mm: 0.65	- - Rated speed rpm : 325 - rack travel mm : 6.00
Tolerance mm : + 0.35	- Tolerance mm : + 0.10
governor spring pre-tension	- Rated speed rpm : 100
click setting x : 6.00	- CRT mm min. :> 19.00
FULL LOAD DELIVERY AT FULL LOAD STOP	- Testing: -
Rated speed rpm : 1150 Aneroid pressure hPa : -	- Rated speed rpm : 325 - rack travel mm : 6.50 - Tolerance mm : + 0.10
Del. quantity cm3/1000 strokes : 54.5 Tolerance cm3/1000 strokes : +- 0.5	rack travel mm : 2.00 Rated speed rpm : 530 Tolerance 1/min : +- 30
Check tolerance cm3/1000s. : + 2.0 -	TORQUE CONTROL Rated speed rpm : 1150 rack travel mm : 9.35 Tolerance mm : +- 0.05
THE TOTAL OF CITY	- CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Rated speed rpm : 500 rack travel mm : 11.15 Tolerance mm : + 0.05

Rated speed rpm : 800 rack travel mm : 10.35 Tolerance mm : +- 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 62.5 Tolerance

cm3/1000 strokes : + 1.5

Check tolerance

cm3/1000s. : +-- 3.0

Aneroid pressure

hPa : Rated speed rom : 800

Del. quantity cm3/1000 strokes : 57.5

Tolerance

cm3/1000 strokes : + 1.5

Check tolerance

cm3/100US. : + 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +-- 1.00

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 6.50
Tolerance mm: + 0.10
Del. quantity

cm3/1000 strokes : 7.5

Tolerance cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : + 3.5

Spreed

Tolerance

cm3/1000 strokes : 4.0 Check tolerance

cm3/1000s. : 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.02.97 Test oil : ISO 4113

Combination No. : 9 400 093 227

Injection pump

Pump designation : PES6A85D41ORS2756 EP type number : 9 400 093 006

Governor

Governer design. : RSV325...1150A1C1168

: 9 420 083 293 Governer no.

Cust. part No. :

Gustomer-spec. information

: DEUTZ-ARGENTINA Customer

Motor : BF6L913 Power KW : 118.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0 x length mm 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 32.0 Tolerance bar : +- 1.0

Prestroke mm 1.95 : + 0.05Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance m_0 : \leftarrow 1.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-50-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance °NW : + - 0.75

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 11.35 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes :

73.0

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance

cm3/1000S.

: +- 2.5

Spreed

Tolerance + 3.0 + 1.000 strokes : 3.00 + 1.000 strokes : 3.000 strokes : 3.0	Check tolerance cm3/1000s. : 7.0
Check tolerance + cm3/1000s. : 7.0 +	
	CONTROL LEVER
Rated speed rpm : 325	<pre>control lever position degree : 114.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 8.00 + Tolerance mm: + 0.10	RATED SPEED
Del. quantity cm3/1000 strokes : 11.0	rack travel mm : 10.30 Rated speed rpm : 1195
Tolerance cm3/1000 strokes : + 2.0	Tolerance 1/min : + 5
Check tolerance + 4.0 + Spreed + 4.0	rack travel mm : 4.00 Rated speed rpm : 1235 Tolerance 1/min : + 15
Tolerance cm3/1000 strokes : 4.5	rack travel mm : 0.85
Check tolerance + 7.0 + 7.0	Tolerance mm : + 0.55 Rated speed rpm : 1380
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
+	FOM IDLE
GUIDE SLEEVE POSITION +	control lever position degree : 77.0
control Lever position degree : -3 Rated speed rpm : 800	Setting point w/out bumper spring
Rack travel in mm: 0.65	Rated speed rpm : 325 rack travel mm : 7.50
Toterance mm : + 0.35	Tolerance mai: : + 0.10
governor spring + pre-tension +	Rated speed rpm : 100
click setting x : 5.00	CRT mm min. : > 19.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
Rated speed rpm : 1150 +	Rated speed rpm : 325 rack travel mm : 8.00
Aneroid pressure	rack travel mm : 8.00 Tolerance mm : + 0.10
Del. quantity cm3/1000 strokes : 73.0	rack travel mm : 2.00 Rated speed rpm : 570
Tolerance + 0.5	Tolerance 1/min : +- 30
Check tolerance	TORQUE CONTROL
Spreed + Tolerance + cm3/1000 strokes : 3.0 +	Rated speed rpm : 1150 rack travel mm : 11.35 Tolerance mm : +- 0.05
+	

Rated speed rpm : 500 rack travel mm : 13.0 13.05 : +- 0.05 Tolerance mm Rated speed rpm : 800 rack travel mm : 12.35 Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 79.5 Tolerance cm3/1000 strokes : +- 1.5 Check tolerance 3.5 cm3/1000s.

Aneroid pressure hPa Rated speed rpm : 800 Del. quantity

cm3/1000 strokes : 76.5 Tolerance

cm3/1000 strokes : + 1.5Check tolerance

3.5 cm3/1000s.

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 : +- 1.00 Tolerance mm

LOW IDLE

325 Rated speed rpm :

8.00 Rack travel in mm : Tolerance mm : + 0.10 Del. quantity

cm3/1000 strokes : 11.0 Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s.: +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 4.5

Check tolerance

cm3/1000s. 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 25.02.97

Test oil

: ISO 4113

Combination No. : 9 400 093 228

Injection pump

Pump designation : PES5A80D410RS2526

EP type number

: 9 400 093 007

Governor

Governer design. : RSV325...1075A1C1167

Governer no.

: 9 420 083 292

Cust. part No. :

Customer-spec. information

Customer

: DEUTZ--ARGENTINA

Motor

: F5L913

Power KW

: 87.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

Test Lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +-1.0

Prestroke mm

1.95

Tolerance mm

: +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-3-5-4-2

Phasing

: 0-72-144-216-288

Tolerance Check

: + 0.50

tolerance °NW

: +- 0.75

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm :

9.45

Tolerance mm

: +- 0.05

Del. quantity

cm3/1000 strokes :

53.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s.

2.0

Spreed

Tolerance

cm3/1000 strokes : 2.5

B10

At	+		
Check tolerance cm3/1000S. :	4.0	CONTROL LEVER	
Rated speed rpm : 3%	25	control lever position degree	
Nated speed (pill : 3)	<u> </u>	tolerance degree	; + 4.0
Rack travel in mm : c Tolerance mm : +- (Del. quantity cm3/1000 strokes :		RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 1120
Tolerance	 		
cm3/1000 strokes : +- Check tolerance cm3/1000s. : +-	+	rack travel mm Rated speed rpm Tolerance 1/min	
Spreed Tolerance	7.5	rack travel mm	
cm3/1000 strokes : Check tolerance	4.0	Tolerance mm Rated speed rpm	: +- 0.55
cm3/1000s. :	6.0	Nated Speed (piii	. 1320
(B) SETTING OF INJECTION WITH GOVERNOR	PUMP	LOW IDLE	
	‡		
GUIDE SLEEVE POSITION	+	control lever position degree tolerance degree	: 84.0 : +- 4.0
control lever position degree : - 3	†	Setting point w/o	ut bumper spring
Rated speed rpm : 80	00	Rated speed rpm rack travel mm	
Rack travel in mm : (Tolerance mm : + (Tolerance mm	
governor spring	+	Rated speed rpm	: 100
<pre>pre-tension click setting x : c</pre>	5.80	CRT mm min.	: > 19.00
***************************************		Testing:	
FULL LOAD DELIVERY AT FUL	+	Rated speed rpm rack travel mm	
Rated speed rpm : 107 Aneroid pressure	75 +	Tolerance mm	
hPa : Cel. quantity	- +	rack travel mm Rated speed rpm	
Tolerance	53.0	Tolerance 1/min	: +- 30
cm3/1000 strokes : +- Check tolerance	0.5	TORQUE CONTROL	
cm3/1000S. : +- Spreed Tolerance	2.0	Rated speed rpm rack travel mm Tolerance mm	: 1075 : 9.45 : +- 0.05
cm3/1000 strokes : Check tolerance	2.5	Rated speed rpm	: 500
cm3/1000s. :	4.0	rack travel mm Tolerance mm	: 11.25 : +- 0.05

Rated speed rpm 800 : rack travel mm : 10,55 Tolerance mm : +- 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm 500

Del. quantity cm3/1000 strokes : 62.5

Tolerance

cm3/1000 strokes : + 1.5

Check tolerance

cm3/1000s. : +- 3.0

Aneroid pressure

hPa 800 Rated speed rpm

Del. quantity

cm3/1000 strokes : 58.0

Tolerance

cm3/1000 strokes : +-1.5

Check tolerance

cm3/1000s. : +-3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 20.00

Tolerance imm : +- 1.00

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 6.50

Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 7.5

Tolerance

cm3/1000 strokes 1.5

Check tolerance

cm3/1000s. 3.5

Spreed

Tolerance

4.0 cm3/1000 strokes :

Check tolerance

cm3/1000s. 6.0

B12

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 25,02,97 : ISO 4113

Combination No. : 9 400 093 229

Injection pump

Pump designation : PES4A80D410RS2523 EP type number : 9 400 093 008

Governor

Governer design. : RSV325...1075A1C1167

Governer no.

: 9 420 083 292

Cust. part No. :

Customer-spec. information

Customer : DEUTZ-ARGENTINA

Motor

: F4L913

Power KW

: 56.0

TEST BENCH REQUIREMENTS

Inlet line

: 4.2

Test oil inlet

temp. °C

Tolerance *C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

Test lines : 1 680 750 003

Outside diameter :

6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : +- 0.05 Tolerance mm

Check

tolerance mm

: +- 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

1.95

Firing order

: 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance °NW

: +- 0.75

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 10.25

Tolerance mm

: +- 0.05

Del. quantity cm3/1000 strokes :

60.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s.

: +- 2.0

Spreed

Tolerance

cm3/1000 strokes :

2.5

B13

	-
Check tolerance cm3/1000s. : 4.0	CONTROL LEVER
**************************************	- control lever
	position degree : 119.0
Rated speed rpm : 325 -	tolerance degree : +- 4.0
Rack travel in mm: 6.50	- RATED SPEED
Tolerance mm : +- 0.10	rack travel mm : 9.20
Del. quantity	Rated speed rpm : 1120
cm3/1000 strokes : 7.5	- Tolerance 1/min : +- 5
cm3/1000 strokes : +- 1.5	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1175
cm3/1000s. : +- 3.5 Spreed	Tolerance 1/min : +- 15
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 4.0	Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1320
cm3/1000s. : 6.0	•
4	
(B) SETTING OF INJECTION PUMP) (III TO E
WITH GOVERNOR	LOW IDLE
-	
CHARL OF ECHE DOCUTION	control lever
GUIDE SLEEVE POSITION	- position degree : 85.0 - tolerance degree : +- 4.0
4	
annemat lavan	
control lever	- Setting point w/out bumper spring
position degree : - 3	
· · · · · · · · · · · · · · · · · · ·	- Rated speed rpm : 325
position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.65	
position degree : -3 Rated speed rpm : 800	- Rated speed rpm : 325 - rack travel mm : 6.00 - Tolerance mm : +- 0.10
position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35	Rated speed rpm : 325 - rack travel mm : 6.00
nosition degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 governor spring pre-tension	- Rated speed rpm : 325 - rack travel mm : 6.00 - Tolerance mm : +- 0.10
nosition degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring	Rated speed rpm : 325 - rack travel mm : 6.00 - Tolerance mm : +- 0.10 - Rated speed rpm : 100 - CRT mm min. : > 19.00
nosition degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 governor spring pre-tension	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100
nosition degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 governor spring pre-tension	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325
position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 7.00 FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50
nosition degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 7.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1075	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325
nosition degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 7.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1075 Aneroid pressure	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : +- 0.10
nosition degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 7.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1075 Aneroid pressure hPa : - Del. quantity	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 550
nosition degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 governor spring pre-tension click setting x : 7.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1075 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 60.5	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : +- 0.10 rack travel mm : 2.00
nosition degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 governor spring pre-tension click setting x : 7.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1075 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 60.5 Tolerance	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 550
nosition degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 7.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1075 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 60.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 550 Tolerance 1/min : +- 30 TORQUE CONTROL
Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 7.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1075 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 60.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.0	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 550 Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 1075
Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 7.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1075 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 60.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.0 Spreed	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 550 Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 1075 rack travel mm : 10.25
Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 7.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1075 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 60.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.0 Spreed Tolerance	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 550 Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 1075
Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 7.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1075 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 60.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000strokes : + 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 550 Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 10.25 Tolerance mm : +- 0.05 Rated speed rpm : 500
Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 7.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1075 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 60.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.0 Spreed Tolerance cm3/1000 strokes : 2.5	Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 550 Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 1075 rack travel mm : 10.25 Tolerance mm : +- 0.05

Rated speed rpm : 750 rack travel mm : 10.65 Tolerance mm : +- 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 61.0

Tolerance cm3/1000 strokes : +- 1.5

Check tolerance cm3/1000s. : +- 3.0

Aneroid pressure

hPa : -Rated speed rpm : 750

Del. quantity

cm3/1000 strokes : 59.0

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 6.50
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 7.5
Tolerance
cm3/1000 strokes: + 1.5
Check tolerance
cm3/1000s: + 3.5
Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance cm3/1000s.

: 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 25.02.97 : ISO 4113

Combination No.

: 9 407 083 263

Injection pump

Pump designation : PES6A90D320RS2605 EP type number : 9 400 083 078

Governor

Governer design. : RSV325...900A1c2132R

Governer no. : 9 420 083 280

Cust. part No.

Customer-spec. information

Customer

: MWM

Motor

: TD 229-6

Power KW

: 89.7

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve

: 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 003

Outside diameter :

6.0

x inside diameter : 2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 1.0

Tolerance bar : +-

Prestroke mm 2.25

: +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.30

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance

: +- 0.50

Check

tolerance "NW

: +- 0.75

Beginning of delivery differende

and maximum rack

travel

Tolerance mm : +- 1.50

Difference ° CS :

4.50

10.50

BASIC SETTING

Rated speed rpm :

900

Rack travel in mm : 10.25

Tolerance mm

: + - 0.05

Del. quantity

cm3/1000 strokes :

73.5

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Tolerance cm3/1000 strokes : +- 0.5	- Tolerance - cm3/1000 strokes : +- 0.5 - Check tolerance
Check tolerance cm3/1000s. : +- 2.5	- cm3/1000s. : +- 2.5 - Spreed - Tolerance
Spreed	- cm3/1000 strokes : 3.0 - Check tolerance
Tolerance cm3/1000 strokes : 3.0	- cm3/1000s. : 7.0
Check tolerance cm3/1000s. : 7.0	CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 97.0 tolerance degree : +- 4.0
Rack travel in mm: 7.00 Tolerance mm: +- 0.10 Del. quantity	- ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 15.5 Tolerance	- Rated speed rpm : 923 - rack travel mm : 9.20
cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.0	- Rated speed rpm : 958 - Tolerance 1/min : +- 4
Spreed Tolerance cm3/1000 strokes : 4.5	- rack travel mm : 4.00 - - rack travel mm : 0.85
Check tolerance cm3/1000s. : 7.0	- Tolerance mm : +- 0.55 - Rated speed rpm : 1050
	•
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- Rated speed rpm : 924 - rack travel mm : 9.20
GUIDE SLEEVE POSITION	Rated speed rpm : 959 Tolerance 1/min : +- 4 rack travel mm : 4.00
control lever position degree : - 3	- rack travel mm : 0.85 - Tolerance mm : +- 0.55 - Rated speed rpm : 1050
Rated speed rpm : 800 Rack travel in mm : 0.65	- Rated speed rpm : 925
Tolerance mm : +- 0.35	rack travel mm : 9.20
governor spring pre-tension click setting x : 4.25	- Rated speed rpm : 960 - Tolerance 1/min : +- 4 - rack travel mm : 4.00
FULL 'DAD DELIVERY AT FULL LOAD STOP Ratid speed rpm : 900	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1050
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.5	Rated speed rpm : 926 rack travel mm : 9.20

Rated speed rpm	: 961
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1050
Rated speed rpm	: 927
rack travel mm	: 9.20
Rated speed rpm	: 962
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1050
Rated speed rpm	: 928
rack travel mm	: 9.20
Rated speed rpm	: 963
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1050
LOW IDLE	
control lever position degree tolerance degree	: 74.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm	: 100
CRT mm min.	: > 19.00
Testing:	
.	: 325
Rated speed rpm	: 325
rack travel mm	: 7.00
Tolerance mm	: +- 0.10

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 900 : 10.25 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.30 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 375 : 11.30 : +- 0.30
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm	: 100 : 20.00 : +- 1.00
LOW IDLE	
Rated speed rpm	: 325
Rack travel in mm Tolerance mm Del. quantity	: 7.00 : +- 0.10
cm3/1000 strokes	: 15.5
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	
Check tolerance	: 4.5

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 25.02.97 Edition Test oil : ISO 4113 Combination No. : 9 407 083 270 Injection pump Pump designation : PES6A9OD410RS2293 EP type number : 0 410 896 031 Governor Governer design. : RQV300...1400AB740 : -1L Governer no. : 9 420 080 153 Cust. part No. : Customer-spec. information : MBA Customer : 0M352-A Motor Power KW : 117.8 TEST BENCH REQUIREMENTS Inlet line : 4.1 Test oil inlet temp. °C Tolerance °C : + 2.0 Overflow valve : 1 417 413 047 Inlet press. bar : 1.5 Test nozzle holde : 0 681 343 009 assembly Opening pressure 173.5 bar Tolerance bar : + 1.5

x inside diameter : 2.0 x length mm 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values ____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : +- 1.0 Prestroke mm 2.20 Tolerance mm : +- 0.05 Check tolerance mm : +- 0.10 Rack travel in mm : 10.50 Tolerance mm : +- 1.50 Firing order : 1-5-3-6-2-: 4 Phasing : 0-60-120-180-240 : -300 Tolerance : +- 0.50 Check tolerance "NW : +- 0.75 BASIC SETTING Rated speed rpm : 1400 Rack travel in mm : 11.05 : +- 0.05 Tolerance mm Del. quantity cm3/1000 strokes : 71.5 Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +-2.5 Spreed

Test lines

Outside diameter : 6.0

: 1 680 750 014

Tolerance	L
cm3/1000 strokes : 3.0	control lever position degree : - 1
Check tolerance cm3/1000s. : 7.0	Rated speed rpm : 1420
	Rack travel in mm: 16.50 Tolerance mm: +- 1.30
Datad aread are a 700	+
Rated speed rpm : 300	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 7.50 Tolerance mm : + 0.10	+ Rated speed rpm : 1400
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 11.0 Tolerance	+ hPa : - Del. quantity
cm3/1000 strokes : +- 2.0	+ cm3/1000 strokes : 71.5
Check tolerance	+ Tolerance
cm3/1000s. : +- 4.0 Spreed	+ cm3/1000 strokes : +- 0.5 + Check tolerance
Tolerance	+ cm3/1000s. : +- 2.5
cm3/1000 strokes : 4.5 Check tolerance	+ Spreed + Tolerarice
cm3/1000s. : 7.0	- cm3/1000 strokes : 3.0
	+ Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000s. : 7.0
WITH GOVERNOR	
	CONTROL LEVER
GUIDE SLEEVE TRAVEL	+ control lever
Rated speed rpm : 775	position degree : 116.0
guide sleeve	tolerance degree : - 4.0
travel mm : 4.35 Tolerance mm : +- 0.25	RATED SPEED
	+ rack travel mm : 10.00
Rated speed rpm : 1460 guide sleeve	+ Rated speed rpm : 1445 + Tolerance 1/min : - 5
travel mm : 8.50	Total ance minima.
Tolerance mm : +- 0.10	+ rack travel mm : 4.00
Rated speed rpm : 300	+ Rated speed rpm : 1570 + Tolerance 1/min : + 15
guide sleeve	+
travel mm : 0.95 Tolerance mm : +- 0.25	+ rack travel mm : 0.50 + Tolerance mm : + 0.50
roceratice likit	+ Rated speed rpm : 1700
Rated speed rpm : 550	+
guide sleeve travel mm : 2.85	İ
Tolerance mm : +- 0.15	
Rated speed rpm : 950	+ LOW IDLE
Rated speed rpm : 950 guide sleeve	Ţ
travel mm : 5.35	+ control lever
Tolerance mm : +- 0.15	+ position degree : 68.0 + tolerance degree : + 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
	Rated speed rpm : 100

: > 9.00
: 300 : 7.50 : +- 0.10
: 435
: 1400 : 11.05 : + 0.05
: 500 : 11.10 : +- 0.10
: > 100 : < 220
: > 80
: < 240
ACTERISTICS
: -
500
: 54.0
: + 1.5
: +- 3.5
: +- 3.5 VERY
VERY : 100 : 13.90
VERY : 100 : 13.90 : + 0.20

LOW IDLE			
Rated speed rpm	:	300	
Rack travel in mm Tolerance mm Del. quantity	: : +-	7.50 0.10	
74400	:	11.0	
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: +-	2.0	
	: +-	4.0	
cm3/1000 strokes Check tolerance	:	4.5	
cm3/1000s.	:	7.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 25.02.97 : ISO 4113

Combination No. : 9 407 083 279

Injection pump

Pump designation : PES6A80D320RS1271 EP type number : 9 400 083 058

Governor

Governer design. : RSV350...1400A2C2179

Governer no.

: 9 420 083 281

Cust. part No. :

Customer-spec. information

Customer

: MWM

Motor

: D229-6

Power KW

: 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar

Test Lines : 1 680 750 003

Outside diameter :

6.0

x inside diameter :

x length mm :

2.0 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0

Tolerance bar : +- 1.0

Prestroke mm : +- 0.05

Tolerance mm Check

tolerance mm : + - 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance

: + 0.50

2.25

Check

tolerance "NW

: + - 0.75

Beginning of delivery differende

and maximum rack

travel 10.50 Tolerance mm : +- 1.50

Difference ° CS :

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 9.65

Tolerance mm 0.05

Del. quantity

cm3/1000 strokes :

55.0

B22

Tolerance	+ Tolerance
cm3/1000 strokes : +- 0.5	+ cm3/1000 strokes : +- 0.5
CIRCLE TO CONTROL TO THE CONTROL THE CONTROL TO THE CONTROL THE CONTROL TO THE CONTROL TO THE CONTROL TO THE CONTROL TO THE CO	+ Check tolerance
Check tolerance	
	+ cm3/1000s. : + 2.0
cm3/1000s. : +- 2.0	+ Spreed
	+ Tolerance
Spreed	+ cm3/1000 strokes : 2.5
	+ Check tolerance
Tolerance	+ cm3/1000s. : 4.0
cm3/1000 strokes : 2.5	. 4.0
Chiar todo Strokes , 2,5	T
Oha il dalamana	†
Check tolerance	AANTAA
cm3/1000s. : 4.0	+ CONTROL LEVER
	- †
	+ control lever
	+ position degree : 105.0
Rated speed rpm : 350	+ tolerance degree : +- 4.0
	1
Rack travel in mm : 7.40	A RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 8.60
Del. quantity	+ Rated speed rpm : 1445
The state of the s	
	Tolerance 1/min : +- 5
Tolerance	†
cm3/1000 strokes : +- 1.5	+ rack travel mm : 4.00
Check tolerance	+ Rated speed rpm : 1490
cm3/1000s. : +- 3.5	+ Tolerance 1/min : +- 15
Spreed	+
Tolerance	+ rack travel mm : 0.85
cm3/1000 strokes : 4.0	+ Tolerance mm : + 0.55
Check tolerance	Rated speed rpm : 1650
cm3/1000s. : 6.0	1 Marca speed i piii
. 0.0	
(B) SETTING OF INJECTION PUMP	Ţ
	1011 7015
WITH GOVERNOR	+ LOW IDLE
	†
	7.
CUITAG OL FEUE DOCUTTON	+ control lever
GUIDE SLEEVE POSITION	+ position degree : 72.0
	+ tolerance degree : + 4.0
	+
control lever	+ Setting point w/out bumper spring
position degree : - 3	+
Rated speed rpm : 800	Rated speed rpm : 350
•	
Rack travel in mm : 0.65	+ rack travel mm : 6.90 + Tolerance mm : + 0.10
Tolerance mm : +- 0.35	<u> </u>
	+ Rated speed rpm : 100
governor spring	1.4004 00004 10111
pre-tension	T CRT mm min. : > 19.00
click setting x : 4.00	T (17 mm mm).
cerek setting x : 4.00	Tooking
	Testing:
FULL LOAD DELTHEDY AT ELLE LOAD OFF	T Dated and T 700
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 350
	+ rack travel mm : 7.40
Rated speed rpm : 1400	+ Tolerance mm : + 0.10
Aneroid pressure	+
hPa : -	+ rack travel mm : 2.00
Del. quantity	+ Rated speed rpm : 660
cm3/1000 strokes : 55.0	+ Tolerance 1/min : +- 30
	and provide the control of the cont

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1400 : 9.65 : + 0.05
Rated speed rpm	: 500
rack travel mm	: 10.65
Tolerance mm	: + 0.05
Rated speed rpm	: 800
rack travel mm	: 10.40
Tolerance mm	: +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	_
Rated speed rpm	:	5 00
Del. quantity		
cm3/1000 strokes	:	50.0
Tolerance		
cm3/1000 strokes	: -	⊢ 1.5
Check tolerance		
cm3/1000s.	; +	- 3.0

Aneroid pressure			
hPa	:		-
Rated speed rpm	:		800
Del. quantity			
cm3/1000 strokes	•		53.0
Tolerance			
cm3/1000 strokes	:	+-	1.5
Check tolerance			
cm3/1000s.	:	+-	3.0

STARTING FUEL DELIVERY

Rated speed rpm	:		100
rack travel mm	:		20.00
Tolerance mm	:	+-	1.00

LOW IDLE

Rated speed rpm	:	350
Rack travel in mm		7.40
Tolerance mm	: +	- 0.10

Del. quantity		
cm3/1000 strokes	:	12.5
Tolerance		
cm3/1000 strokes	: +-	1.5
Check tolerance		
cm3/1000s.	: +-	3.5
Spreed		
Tolerance		
cm3/1000 strokes	:	4.0
Check tolerance		
cm3/1000s.	:	6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 25.02.97 : ISO 4113

Combination No. : 9 407 083 281

Injection pump

Pump designation : PES6A80D320RS1271 EP type number : 9 400 083 058

Governor

Governer design. : RSV350...1150A2C2129

: - R

Governer no. : 9 420 083 282

Cust. part No.

Customer-spec. information

Customer : MWM

: D 229-6 Motor Power KW : 77.2

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

: +-Tolerance °C 2.0

Overflow valve : 1 419 992 198

1.5 Inlet press. bar :

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar

: +- 1.5 Tolerance bar

Test lines : 1 680 750 003

Outside diameter : 6.0 x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm 2.25

: + - 0.05Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-5- 3- 6- 2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

Beginning of delivery differende

and maximum rack

10.50 travel Tolerance mm : **←** 1.50 Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 9.45

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 50.0

Tolerance +	Tolerance
cm3/1000 strokes : +- 0.5	cm3/1000 strokes : +- 0.5
CIII. 1000 001 01/03 1	Check tolerance
Check tolerance	cm3/1000s. : +- 2.0
cm3/1000s. : + 2.0	Spreed
	Tolerance
Spreed	cm3/1000 strokes : 2.5
+	Check tolerance
Tolerance	- cm3/1000s. : 4.0
cm3/1000 strokes : 2.5	
4	•
Check tolerance	
cm3/1000s. : 4.0	CONTROL LEVER
	-
The Principal State of	control lever
	position degree : 96.0
Rated speed rpm : 350	tolerance degree : +- 4.0
Kated Speed Phill : 550	toterance degree : +- 4.0
Dock tunied in man 2 00	DATEN SDEEN
Rack travel in mm: 7.00	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 8.50
Del. quantity	Rated speed rpm : 1175
cn3/1000 strokes : 8.5	Tolerance 1/min : +- 5
Tolerance	
cm3/1000 strokes : + 1.5	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1225
cm3/1000s. : + 3.5	Tolerance 1/min : + 15
Spreed	-
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 4.0	Tolerance mm : +- 0.55
Check tolerance	
•	Rated speed rpm : 1400
$cm3/1000s$. : 6.0 \pm	•
+	•
(B) SETTING OF INJECTION PUMP	
+	. —————————————————————————————————
(B) SETTING OF INJECTION PUMP	LOW IDLE
(B) SETTING OF INJECTION PUMP	LOW IDLE
(B) SETTING OF INJECTION PUMP	•
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- control lever
(B) SETTING OF INJECTION PUMP	- control lever - position degree : 73.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- control lever
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION	control lever 73.0 position degree : 73.0 tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever	- control lever - position degree : 73.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.25	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing:
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : -	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10 rack travel mm : 2.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 365
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : -	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10 rack travel mm : 2.00

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1150 : 9.45 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.05 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 900 : 10.40 : + 0.10
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	: -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes	: 54.0
Tolerance cm3/1000 strokes	: + 1.5
Check tolerance cm3/1000s.	: +- 3.0
Aneroid pressure	
hPa Rated speed rpm	900
Del. quantity cm3/1000 strokes	: 52.5
Tolerance	
cm3/1000 strokes Check tolerance	: + 1.5
cm3/1000s.	: +- 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm Tolerance mm	: 20.00 : + 1.00
LOW IDLE	
LOW IDLE Rated speed rpm	: 350

Del. quantity
cm3/1000 strokes : 8.5
Tolerance
cm3/1000 strokes : +- 1.5
Check tolerance
cm3/1000s. : +- 3.5
Spreed
Tolerance
cm3/1000 strokes : 4.0
Check tolerance
cm3/1000s. : 6.0

End of test specification sheet

Rack travel in mm : 7.00 Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 25,02,97 Edition : ISO 4113 Test oil

Combination No. : 9 407 083 282

Injection pump

Pump designation : PES6A90D320RS2605 EP type number : 9 400 083 078

Governor

Governer design. : RSV325...1400A2C2096

: 9 420 083 168 Governer no.

Cust. part No. :

Customer-spec. information

Customer : MWM

: TD 229-6 Motor

: 95.6 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar : **←** 1.5 Tolerance bar

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Beginning of delivery differende

and maximum rack

10.50 travel Tolerance mm : **←** 1.50 Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 8.05 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 65.5

Toterance	+ Spreed
cm3/1000 strokes : + 0.5	Tolerance
time: 1000 0 (10)(20 1 1 0)	+ cm3/1000 strokes : 3.0
AL I	
Check tolerance	+ Check tolerance
cm3/1000s, : +- 2.5	+ cm3/1000s. : 7.0
	+
Spreed	1
- P	
Tolerance	CONTROL LEVER
	T CONTROL LEVER
cm3/1000 strokes : 3.0	
	+ control lever
Check tolerance	+ position degree : 56.0
cm3/1000s. : 7.0	+ tolerance degree : +- 4.0
	RATED SPEED
	(
Date of annual man	+ rack travel mm : 7.00
Rated speed rpm : 325	+ Rated speed rpm : 1445
	+ Tolerance 1/min : + 5
Rack travel in mm : 6.50	+
Tolerance mm : + 0.10	+ rack travel mm : 4.00
Del. quantity	Rated speed rpm : 1480
cm3/1000 strokes : 11.5	+ Tolerance 1/min : + 15
Tolerance	TOTAL THIRD . TO 15
	T and the second are
cm3/1000 strokes : + 2.0	+ rack travel mm : 0.85
Check tolerance	+ Tolerance mm : + 0.55
cm3/1000s. : +- 4.0	+ Rated speed rpm : 1650
Spreed	+
Tolerance	į.
cm3/1000 strokes : 4.5	
	T
Check tolerance	
cm3/1000s. : 7.0	+ LOW IDLE
	+
	+
(B) SETTING OF INJECTION FUMP	+ control lever
MITH GOVERNOR	+ position degree · 23.0
WITH GOVERNOR	position degree : 23.0
WITH GOVERNOR	+ position degree : 23.0 + tolerance degree : +- 4.0
WITH GOVERNOR	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	tolerance degree : +- 4.0
	tolerance degree : +- 4.0 + Setting point w/out bumper spring +
	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325
GUIDE SLEEVE POSITION	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00
GUIDE SLEEVE POSITION control lever	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325
CUIDE SLEEVE POSITION control lever position degree : - 3	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION control lever	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00
COUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100
CUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10
COUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100
CUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
CUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100
COUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing:
CUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 325
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 325
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400 Aneroid pressure	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : + 0.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : + 0.10
COUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400 Aneroid pressure hPa : -	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : + 0.10 rack travel mm : 2.00
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400 Aneroid pressure hPa : - Del. quantity	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 325
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 65.5	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : + 0.10 rack travel mm : 2.00
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 65.5 Tolerance	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 320
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 65.5 Tolerance cm3/1000 strokes : + 0.5	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 350 Tolerance 1/min : + 30
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 65.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 350 Tolerance 1/min : + 30 TORQUE CONTROL
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1400 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 65.5 Tolerance cm3/1000 strokes : + 0.5	tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 350 Tolerance 1/min : + 30

rack travel mm Tolerance mm	:
Rated speed rpm	: 500
rack travel mm	: 8.95
Tolerance mm	: ← 0.05
Rated speed rpm	: 800
rack travel mm	: 8.55
Tolerance mm	: ← 0.15
Rated speed rpm	: 1200
rack travel mm	: 8.10
Tolerance mm	: + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	500
Del. quantity cm3/1000 strokes	:	51.0
Tolerance cm3/1000 strakes	٠.	- 1.5
Check tolerance	•	. • •
cm3/1000s. Spreed	: +	- 3.5
Tolerance		
cm3/1000 strokes Check tolerance	:	4.0
cm3/1000s.	:	8.0

Aneroid pressure		
hPa	:	_
Rated speed rpm	:	800
Del. quantity		
cm3/1000 strokes	:	53.0
Tolerance		
cm3/1000 strokes	: +-	- 1.5
Check tolerance		
cm3/1000s.	: +-	- 3.5
Spreed		
Tolerance		
cm3/1000 strokes	:	4.0
Check tolerance		
cm3/1000s.	:	8.0
	•	3.0

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	20.00
Tolerance mm	: +	- 1.00

LOW IDLE				
Rated speed rpm	:		325	
Rack travel in mm Tolerance mm Del. quantity	:	+-	6.50 0.10	
cm3/1000 strokes	:		11.5	
cm3/1000 strokes Check tolerance	:	+-	2.0	
cm3/1000s. Spreed	:	+-	4.0	
Tolerance cm3/1000 strokes Check tolerance	:		4.5	
cm3/1000s.	:		7.0	

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 25.02.97 Edition Test oil : ISO 4113 Combination No. : 9 407 083 283 Injection pump Pump designation : PES3A80D320RS1281 EP type number : 9 400 083 054 Governor Governer design. : RSV350...1150A2C2129 : -1R : 9 420 083 282 Governer no. Cust. part No. : Customer-spec. information Customer : MWM Motor : D 229-3 Power KW : 55.0 TEST BENCH REGULREMENTS Inlet line : 3.1 Test oil inlet temp. °C Tolerance °C 2.0 Overflow valve : 1 417 413 046 Inlet press. bar : 1.5 Test nozzle holde : 0 681 343 009 assembly Opening pressure 173.5 bar Tolerance bar

: 1 680 750 003

x inside diameter : 2.0 600 x length mm : REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values ____ BEGINNING OF DELIVERY 26.0 Test pressure bar : Tolerance bar : + 1.0 Prestroke mm 2.25 : +- 0.05 Tolerance man Check tolerance mm : + 0.10Rack travel in mm: 10.50 Tolerance mm : +- 1.50 Firing order : 1- 2- 3 Phasing : **0-12**0-240 Tolerance : + 0.50Check tolerance *NW : + 0.75Beginning of delivery differende and maximum rack travel 10.50 Tolerance mm : +- 1.50 Difference * CS : 4.50 BASIC SETTING Rated speed rpm : 1150 Rack travel in mm: 9.45 Tolerance mm : + 0.05Del. quantity cm3/1000 strokes : 51.5 Tolerance cm3/1000 strokes : + 0.5

Test lines

Outside diameter : 6.0

Check tolerance cm3/1000s. : + 2.0 Spreed	Sheck telerance cm3/1000s. : 4.0
opi eed	·
Tolerance cm3/1000 strokes : 2.5	CONTROL LEVER
Check tolerance cm3/1000s. : 4.0	position degree : 99.0 tolerance degree : + 4.0
Rated speed rpm : 350	RATED SPEED rack travel mm : 8.40 Rated speed rpm : 1195 Tolerance 1/min : + 5
Rack travel in mm: 7.00	
Tolerance mm : + 0.10	rack travel mm : 4.00
Del. quantity cm3/1000 strokes : 11.0	Rated speed rpm : 1250 Tolerance 1/min : +- 15
cm3/1000 strokes : + 1.5	rack travel mm : 0.85
Check tolerance	Tolerance mm : + 0.55
cm3/1000s. : + 3.5	Rated speed rpm : 1400
Spreed	
Tolerance	
cm3/1000 strokes : 4.0	
Check tolerance	
cm3/1000s. : 6.0 +	LOW IDLE
1	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 75.0 tolerance degree : + 4.0 Setting point w/out bumper spring
GUIDE SLEEVE POSITION	setting point wroat bumper spring
COLDE OCCUPE ! COLLION	Rated speed rpm : 350
	rack travel mm : 6.50
control lever	Tolerance mm : +- 0.10
position degree : -3	
Rated speed rpm : 800	Rated speed rpm : 100
Rack travel in mm: 0.65 Tolerance mm: + 0.35	CRT mm min. :> 19.00
+	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 350
1450	rack travel mm : 7.00
Rated speed rpm : 1150 Aneroid pressure	Tolerance mm : + 0.10
hPa : -	rack travel mm : 2.00
Del. quantity	Rated speed rpm : 680
cm3/1000 strokes : 51.5	Tolerance 1/min : +- 30
Tolerance cm3/1000 strokes : + 0.5	
Check tolerance	TORQUE CONTROL
cm3/1000s. : +- 2.0	Rated speed rpm : 1150
Spreed	rack travel mm : 9.45
Tolerance	Tolerance mm : +- 0.05
cm3/1000 strokes : 2.5	Occiding . O.U.
T	

Rated speed rpm : 500 rack travel mm : 10.85 Tolerance mm : + 0.05

Rated speed rpm : 900 rack travel mm : 10.15 Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 53.5
Tolerance
cm3/1000 strokes : + 1.5

Check tolerance 3.1000S. +- 3.6

Aneroid pressure hPa

Rated speed rpm : 900

Del. quantity

cm3/1000 strokes : 54.0 Tolerance

loterance

cm3/1000 strokes : + 1.5

Check tolerance

cm3/1000s. : \div 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : $\leftarrow 1.00$

LOW IDLE

Rated speed rpm : 350

Rack travel in mm: 7.00 Tolerance mm: + 0.10 Del. quantity

cm3/1000 strokes :

Tolerance cm3/1000 strokes : +- 1.5

11.0

Check tolerance

cm3/1000s. : +- 3.5

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.02.97 Test oil : ISO 4113

Combination No. : 9 407 083 284

Injection pump

Pump designation : PES4A80D32ORS1282 EP type number : 9 400 083 056

Governor

Governer design. : RSV350...1150A2C2129

: -1R

Governer no. : 9 420 083 282

Cust. part No. :

Customer-spec. information Customer : MWM Motor : D 229-4 Power KW : 53.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.25
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check : +- 0.50

CITECY

tolerance °NW : + 0.75

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 8.85
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 50.0

Tolerance

cm3/1000 strokes : +- 0.5

006

Check tolerance cm3/1000S. : +- 2.0	Check tolerance cm3/1000s. : +- 2.0
Spreed	+ Spreed + Tolerance + cm3/1000 strokes : 2.5
Tolerance cm3/1000 strokes : 2.5	Check tolerance cm3/1000s. : 4.0
Check tolerance cm3/1000s. : 4.0	
	CONTROL LEVER
Rated speed rpm : 350	control lever position degree : 97.0 tolerance degree : + 4.0
Rack travel in mm : 6.50 Tolerance mm : + 0.10	RATED SPEED
Del. quantity - cm3/1000 strokes : 8.5 - Tolerance	rack travel mm : 7.90 Rated speed rpm : 1175 Tolerance 1/min : + 5
cm3/1000 strokes : +- 1.5 Check tolerance	rack travel mm : 4.00
<pre>cm3/1000S. : + 3.5 Spreed Tolerance</pre>	Rated speed rpm : 1225 Tolerance 1/min : +- 15
cm3/1000 strokes : 4.0 - Check tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/10003. : 6.0	Rated speed rpm : 1400
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 73.0 tolerance degree : +- 4.0
control lever position degree : - 3 Rated speed rpm : 800	Setting point w/out bumper spring
Rack travel in mm : 0.65 Tolerance mm : + 0.35	+ Rated speed rpm : 350 + rack travel mm : 6.00 + Tolerance mm : + 0.10
governor spring - pre-tension -	Rated speed rpm : 100
click setting x : 4.50	CRT mm min. : > 19.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
Rated speed rpm : 1150 Aneroid pressure	Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10
hPa :	rack travel mm : 2.00 Rated speed rpm : 625 Tolerance 1/min : +- 30

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1150 : 8.85 : + 0.05
Rated speed rpm	: 500
rack travel mm	: 10.65
Tolerance mm	: + 0.05
Rated speed rpm	: 900
rack travel mm	: 9.95
Tolerance mm	: + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure			
hPa	:		-
Rated speed rpm	:		500
Del. quantity			
cm3/1000 strokes	:		55.0
Tolerance			
cm3/1000 strokes	:	+-	1.5
Check tolerance			
cm3/1000s.	:	+-	3.0

Aneroid pressure			
hPa			-
Rated speed rpm	•		900
Del. quantity			
cm3/1000 strokes	:		54.0
Tolerance			
cm3/1000 strokes	:	+-	1.5
Check tolerance			
cm3/1000S.	:	+-	3.0

STARTING FUEL DELIVERY

Rated speed rpm	:		100
rack travel mm	:		20.00
Tolerance mm		+	1.00

LOW IDLE

Rated speed rpm	:	350
Rack travel in mm Tolerance mm		6.50 0.10

Del. quantity		
cm3/1000 strokes	:	8.5
Tolerance		
cm3/1000 strokes	: +-	1.5
Check tolerance		
cm3/1000s.	: +-	3.5
Spreed		
Tolerance		
cm3/1000 strokes	:	4.0
Check tolerance		
cm3/1000s.	:	6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.02.97 Test oil : ISO 4113

Combination No. : 9 407 083 286

Injection pump

Pump designation : PES6A80D32ORS1271 EP type number : 9 400 083 058

Governor

Governer design. : RSV350...1500A2B2028

: -1R

Governer no. : 9 420 083 175

Cust. part No. :

Customer spec. information.
Customer : MWM
Motor : D 229-6

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

DEMARKS

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1480

Rack travel in mm : 9.25 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 50.0

Tolerance +	Spreed
cm $3/1000$ strokes : \leftarrow 0.5 $+$	Tolerance
+	cm3/1000 strokes : 2.5
Check tolerance +	Check tolerance
cm3/1000s, : + 2.0 +	cm3/1000s. : 4.0
+	
Spreed	
+	
Tolerance +	CONTROL LEVER
cm3/1000 strokes : 2.5 +	
<u> </u>	control lever
Check tolerance +	position degree : 60.0
cm3/1000s. : 4.0	tolerance degree : +- 4.0
+	
+	RATED SPEED
+	rack travel mm : 8.20
Rated speed rpm : 350	Rated speed rpm : 1525
+	Tolerance 1/min : +- 5
Rack travel in mm: 7.00	
Tolerance mm : +- 0.10 +	rack travel mm : 4.00
Del. quantity +	Rated speed rpm : 1575
cm3/1000 strokes : 9.0 +	Tolerance 1/min : +- 15
Tolerance +	
cm3/1000 strokes : + 1.5 +	rack travel mm : 0.85
Check tolerance +	Tolerance mm : + 0.55
cm3/1000s. : +- 3.5 +	Rated speed rpm : 1700
Spreed	
Tolerance +	
cm3/1000 strokes : 4.0 +	
Check tolerance +	
cm3/1000s. : 6.0 +	LOW IDLE
cm3/1000s. : 6.0	LOW IDLE
‡	
(B) SETTING OF INJECTION PUMP	control lever
‡	control lever position degree : 20.0
(B) SETTING OF INJECTION PUMP	control lever
(B) SETTING OF INJECTION PUMP	control lever position degree : 20.0 tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 20.0
(B) SETTING OF INJECTION PUMP	control lever position degree : 20.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 20.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION	control lever position degree : 20.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever	control lever position degree : 20.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever	control lever position degree : 20.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : +- 0.35	control lever position degree : 20.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing:
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1480	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1480 Aneroid pressure	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1480 Aneroid pressure hPa : -	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10 rack travel mm : 2.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1480 Aneroid pressure hPa : - Dil. quantity	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10 rack travel mm : 2.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1480 Aneroid pressure hPa : - D:1. quantity	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 350 Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1480 Aneroid pressure hPa : - D:1. quantity cn3/1000 strokes : 50.0	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 350 Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1480 Aneroid pressure hPa : - D:l. quantity cn3/1000 strokes : 50.0 Tolerance	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 350 Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1480 Aneroid pressure hPa : - D:l. quantity cn3/1000 strokes : 50.0 Tolerance cm3/1000 strokes : +- 0.5	control lever position degree : 20.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 630 Tolerance 1/min : + 30

rack travel mm	: 9.25
Tolerance mm	: + 0.05
Rated speed rpm	: 500
rack travel mm	: 10.85
Tolerance mm	: + 0.05
Rated speed rpm	: 1300
rack travel mm	: 9.50
Tolerance mm	: ← 0.10
Rated speed rpm	: 1000
rack travel mm	: 10.35
Tolerance mm	: + 0.15
FUEL DELIVERY CHA	RACTERISTICS
An and all man arrange	
Aneroid pressure	

Aneroia pressure		
hPa	:	_
Rated speed rpm	:	500
Del. quantity		
cm3/1000 strokes	:	52.5
Tolerance		
cm3/1000 strokes	: +-	1.5
Check tolerance		
cm3/1000s.	: +-	3.0
Aneroid pressure		
hPa	:	-

Aneroid pressure			
hPa	:		-
Rated speed rpm	:	1	000
Del. quantity			
cm3/1000 strokes	:		56.5
Tolerance			
cm3/1000 strokes	:	+-	1.5
Check tolerance			
cm3/1000s.	:	+-	3.0

STARTING	FUEL	DELIVERY

Rated speed rpm	:		100
rack travel mm	:		20.00
Tolerance mm	•	+-	1.00

1 /W	1 T	ni E
LU	٧Ł	DLE

Rated speed rpm : 350

Rack travel in mm: 7.00 Tolerance mm: + 0.10

Dei. quantity		
cm3/1000 strokes	:	9.0
Tolerance		
cm3/1000 strokes	: +	1.5
Check tolerance		
cm3/1000S.	: +-	3.5
Spreed		
Tolerance		
cm3/1000 strokes	:	4.0
Check tolerance	-	
cm3/1900s.	:	6.0
	•	0.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 25,02.97 Edition Test oil : ISO 4113

Combination No. : 9 407 083 287

Injection pump

Pump designation : PES6A8OD32ORS1271 EP type number : 9 400 083 058

Governor

Governer design. : RSV350...1000A1B628

: -1R

: 9 420 083 176 Governer no.

Cust. part No. :

Customer-spec. information

: MWM Customer Motor : D 229-6

: 70.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C : +- 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm 2.25

: +- 0.05 Tolerance mm

Check

tolerance mm : ← 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

Beginning of delivery differende

and maximum rack

travel Tolerance mm 10.50 : +- 1.50

Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm: 9.05

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 43.0

Tolerance	+ Spreed
cm3/1000 strokes : +- 0.5	1 '
CIII TOU SCHOKES . TO U.D	+ Tolerance
	+ cm3/1000 strokes : 2.5
Check tolerance	+ Check tolerance
cm3/1000s. : +- 2.0	+ cm3/1000s. : 4.0
	1
Canada	T
Spreed	†
	<u> </u>
Tolerance	+ CONTROL LEVER
cm3/1000 strokes : 2.5	-
	+ control lever
Check tolerance	
cm3/1000s. : 4.0	+ tolerance degree : +- 4.0
	+
	+ RATED SPEED
	+ rack travel mm : 8.00
Rated speed rpm : 350	Rated speed rpm : 1070
Rated speed Thii : 330	
m 1	+ Tolerance 1/min : +- 5
Rack travel in mm : 7.00	+
Tolerance mm : +- 0.10	+ rack travel mm : 4.00
Del. quantity	+ Rated speed rpm : 1095
cm3/1000 strokes : 9.0	Tolerance 1/min : +- 15
	्रा । एउडा ब्राइड स्टाला! २ रण १३
Tolerance	T med a much
cm3/1000 strokes : +- 1.5	+ rack travel mm : 0.85
Check tolerance	+ Tolerance mm : +- 0.55
cm3/1000s. : +- 3.5	+ Rated speed rpm : 1250
Spreed	1
•	T
Tolerance	Ť
cm3/1000 strokes : 4.0	+
Check tolerance	
cm3/1000S. : 6.0	+ LOW IDLE
cm3/1000s. : 6.0	LOW IDLE
cm3/1000s. : 6.0	+ LOW IDLE
	+
(B) SETTING OF INJECTION PUMP	control lever
	control lever position degree : 24.0
(B) SETTING OF INJECTION PUMP	control lever position degree : 24.0
(B) SETTING OF INJECTION PUMP	control lever position degree : 24.0
(B) SETTING OF INJECTION PUMP	control lever position degree : 24.0 tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 24.0
(B) SETTING OF INJECTION PUMP	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 8G0	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 8G0 Rack travel in mm : 0.65	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 8G0	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 8G0 Rack travel in mm : 0.65	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 8G0 Rack travel in mm : 0.65	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 3G0 Rack travel in mm : 0.65 Tolerance mm : +- 0.35	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing:
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 8G0 Rack travel in mm : 0.65	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 3G0 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 8.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 3G0 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1025	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 3G0 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : +- 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 3G0 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1025	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : +- 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 3GO Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1025 Aneroid pressure hPa : -	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : +- 0.10 rack travel mm : 2.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 3GO Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1025 Aneroid pressure hPa : - Del. quantity	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 580
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 3G0 Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1025 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 43.0	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : +- 0.10 rack travel mm : 2.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 3GO Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1025 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 43.0 Tolerance	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 580
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 3GO Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1025 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 43.0 Tolerance cm3/1000 strokes : +- 0.5	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 580 Tolerance 1/min : +- 30
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 3GO Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1025 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 43.0 Tolerance	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 580
(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 3GO Rack travel in mm : 0.65 Tolerance mm : +- 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1025 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 43.0 Tolerance cm3/1000 strokes : +- 0.5	control lever position degree : 24.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 580 Tolerance 1/min : +- 30

rack travel mm	: 9.05
Tolerance mm	: +- 0.05
Rated speed rpm	: 500
rack travel mm	: 10.65
Tolerance mm	: + 0.05
Rated speed rpm	: 700
rack travel mm	: 10.20
Tolerance mm	: + 0.10
Rated speed rpm	: 900
rack travel mm	: 9.35
Tolerance mm	: + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	500
Del. quantity		
cm3/1000 strokes	:	48.5
Tolerance		
cm3/1000 strokes	: •	← 1.5
Check tolerance		
cm3/1000s.	: -	⊢ 3.0
Spreed		
Tolerance		
cm3/1000 strokes	:	3.5
Check tolerance		
cm3/1000s.	:	7.0

Aneroid pressure			
hPa	:		-
Rated speed rpm	:		700
Del. quantity			
cm3/1000 strokes	:		48.5
Tolerance			
cm3/1000 strokes	:	+-	1.5
Check tolerance			
cm3/1000s.	:	+	3.0
Spreed			
Tolerance			
cm3/1000 strokes	:		3.5
Check tolerance			
cm3/1000s.	•		7.0

STARTING FUEL DELIVERY

:	100
:	20.00
: +	- 1.00
	:

LOW IDLE

Rated speed rpm	:	350	
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: +-	7.00 0.10 9.0	
Check tolerance cm3/1000s. Spreed Tolerance	: +-	3.5	
cm3/1000 strokes Check tolerance cm3/1000s.	: :	4.0 6.0	

BOSCH INJ. PUMP TEST SPECIFICATIONS
Note remarks
Refer to Service Info for test and

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.02.97 Test oil : ISO 4113

Combination No. : 9 407 083 288

Injection pump

Pump designation : PES6A80D32ORS1271 EP type number : 9 400 083 058

Governor

Governer design. : RSV350...1100A2B664

: -1R

Governor no. : 9 420 083 177

Cust. part No. :

Customer-spec. information
Customer : MWM
Motor : D 229-6
Power KW : 66.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.25
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Forerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 9.25
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 47.0

Tolerance cm3/1000 strokes : +- 0.5	+ Spreed + Tolerance + cm3/1000 strokes : 2.5
Check tolerance cm3/1000s. : +- 2.0	Check tolerance cm3/1000s. : 4.0
Spreed	‡
Tolerance cm3/1000 strokes : 2.5	CONTROL LEVER
Check tolerance cm3/1000s. : 4.0	control lever position degree : 43.0 tolerance degree : + 4.0
Rated speed rpm : 350	RATED SPEED rack travel mm : 8.20 Rated speed rpm : 1145
	Rated speed rpm : 1145 Tolerance 1/min : +- 5
Rack travel in mm : 7.00 Tolerance mm : + 0.10 Del. quantity	rack travel mm : 4.00 Rated speed rpm : 1185
cm3/1000 strokes : 8.5 Tolerance	Tolerance 1/min : +- 15
cm3/1000 strokes : +- 1.5 Check tolerance	rack travel mm : 0.85 Tolerance mm : +- 0.55
cm3/1000s. : +- 3.5 Spreed Tolerance	Rated speed rpm : 1450
cm3/1000 strokes : 4.0 Check tolerance	
cm3/1000s. : 6.0	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 17.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
401AC 00001 1 001 1 7014	
	Rated speed rpm : 350 rack travel mm : 6.50
control lever position degree : - 3	rack travel mm : 6.50 Tolerance mm : + 0.10
	+ rack travel mm : 6.50
position degree : - 3	rack travel mm : 6.50 Tolerance mm : + 0.10
position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65	rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100
position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65	rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350
position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100	rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing:
position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : -	rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10 rack travel mm : 2.00
position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 47.0	rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10
position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : - Del. quantity	rack travel mm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 540

TORQUE CONTROL

Rated speed rpm 1100 : 9.25 rack travel mm Tolerance mm : +- 0.05

500 Rated speed rpm : 9.30 rack travel mm : + 0.10 Tolerance mm

Rated speed rpm 400 10.40 rack travel mm : +- 0.30 Tolerance mm

STARTING FUEL DELIVERY

Rated speed rpm 100 20.00 rack travel mm : Tolerance mm : +- 1.00

LOW IDLE

Rated speed rpm : 350

7.00 Rack travel in mm : Tolerance mm : +- 0.10 Del. quantity

cm3/1000 strokes : 8.5 Tolerance

cm3/1000 strokes : +-1.5

Check tolerance

cm3/1000s. 3.5 Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 25,02.97 Edition Test oil : ISO 4113

Combination No. : 9 407 083 289

Injection pump

Pump designation : PES6A8OD320RS1271 EP type number : 9 400 083 058

Governor

Governer design. : RSV350...1200A2B1108

: -1R

Governer no. : 9 420 083 173

Cust. part No. :

Customer-spec. information

Customer : MWM : D 229-6 Motor

: 84.5 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

: 2.25 : + 0.05 Prestroke mm Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance 'NW : +- 0.75

Beginning of delivery differende

and maximum rack

10.50 travel Tolerance mm : +- 1.50 Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 9.75 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 53.0

Tolerance cm3/1000 strokes : +- 0.5	- Spreed - Tolerance
Check tolerance	- cm3/1000 strokes : 2.5 - Check tolerance
cm3/1000s. : +- 2.0	- cm3/1000s. : 4.0
Spreed	
Tolerance cm3/1000 strokes : 2.5	- CONTROL LEVER
Check tolerance	- control lever - position degree : 46.0
cm3/1000s. : 4.0	tolerance degree : +- 4.0
	- RATED SPEED
Rated speed rpm : 350	- rack travel mm : 8.70 - Rated speed rpm : 1245
+	- Tolerance 1/min : +- 5
Rack travel in mm: 7.00	- - rack travel mm : 4.00
Del. quantity	- rack travel mm : 4.00 - Rated speed rpm : 1305
cn3/1000 strokes : 8.5	- Tolerance 1/min : +- 15
Tolerance	•
cm3/1000 strokes : +- 1.5	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1000s. : +- 3.5 Spreed	- Rated speed rpm : 1450
Tolerance	•
cm3/1000 strokes : 4.0	•
Check tolerance	LOUITNIE
cm3/1000s. : 6.0	- LOW IDLE -
+	
(B) SETTING OF INJECTION PUMP	- control lever
WITH GOVERNOR	position degree : 18.0
† -	- tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	- Setting point w/out bumper spring
20110 255515 1 20111211	- Rated speed rpm : 350
1	- rack travel mm : 6.50
control lever	Tolerance mm : +- 0.10
position degree : - 3 Rated speed rpm : 800	- - Rated speed rpm : 100
Mateu speed i piii . DOD	•
Rack travel in mm: 0.65 Tolerance mm: +- 0.35	- CRT mm min. :> 19.00
Total arise in in the second s	- Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	- Rated speed rpm : 350
	rack travel mm : 7.00
Rated speed rpm : 1200 Aneroid pressure	Tolerance mm : + 0.10
hPa : -	rack travel mm : 2.00
Del. quantity	- Rated speed rpm : 660
cm3/1000 strokes : 53.0	Tolerance 1/min : +- 30
Tolerance	•
cm3/1000 strokes : +- 0.5 +- Check tolerance	- TORQUE CONTROL
cm3/1000s. : +- 2.0	- Rated speed rpm : 1200
1	rated abada ibiii . IEOO

	0.75
rack travel mm Tolerance mm	: 9.75 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.25 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 10.90 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 10.15 : + 0.15
FUEL DELIVERY CHA	
	RACTERISTICS
Aneroid pressure	RACTERISTICS
Aneroid pressure	: -
Aneroid pressure hPa Rated speed rpm	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: -
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	÷ 500
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 500 : 57.5
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 500 : 57.5 : + 1.5

Aneroid pressure hPa	:	_
Rated speed rpm	:	800
Del. quantity cm3/1000 strokes Tolerance	:	58.0
cm3/1000 strokes Check tolerance	: -	⊢ 1.5
cm3/1000s.	: -	⊢ 3.0
Tolerance		
cm3/1000 strokes	:	3.5
Check tolerance cm3/1000s.	:	7.0

STARTING FUEL DELIVERY

100 Rated speed rpm 20.00 rack travel mm : Tolerance mm : +- 1.00

LOW I	DLE
-------	-----

Rated speed rpm	:	350	
Rack travel in mm Tolerance mm Del. quantity	: +-	7.00 0.10	
cm3/1000 strokes Tolerance	:	8.5	
cm3/1000 strokes Check tolerance	: +-	1.5	
cm3/1000s. Spreed Tolerance	: +-	3.5	
cm3/1000 strokes Check tolerance	:	4.0	
cm3/1000s.	:	6.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 25.02.97 : ISO 4113

Combination No. : 9 407 083 290

Injection pump

Pump designation : PES6A80D320RS1271 EP type number : 9 400 083 058

Governor

Governer design. : RSV350...1000A1C2029

: -1R

Governer no.

: 9 420 083 285

Cust. part No. :

Customer-spec. information

Customer : MWM

Motor

: D 229-6

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar: 26.0

Tolerance bar : +- 1.0

Prestroke mm 2.25

Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: **←** 0.50 Tolerance

Check

tolerance 'NW : ← 0.75

Beginning of delivery differende

and maximum rack

travel : 10.50 Tolerance mm : +- 1.50

Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 9.75

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 49.5

Tolerance +	Tolerance
cm3/1000 strokes : +- 0.5	cm3/1000 strokes : +- 0.5
Check tolerance	Check tolerance cm3/1000s. : +- 2.0
cm3/1000s. : +- 2.0	Spreed
+	Tolerance
Spreed	cm3/1000 strokes : 2.5 Check tolerance
Tolerance	cm3/1000s. : 4.0
cm3/1000 strokes : 2.5	
Check tolerance	
cm3/1000s. : 4.0	CONTROL LEVER
	control lever
1	position degree : 58.0
Rated speed rpm : 350	tolerance degree : +- 4.0
Rack travel in mm: 7.00	control lever
Tolerance mm : +- 0.10	position degree : 108.0
Del. quantity	tolerance degree : + 4.0
cm3/1000 strokes : 8.5	_
Tolerance	RATED SPEED
cm3/1000 strokes : + 1.5	rack travel mm : 8.70
Check tolerance + 3.5 +	Rated speed rpm : 1045 Tolerance 1/min : +- 5
Spread	roterance mining . F- 3
Tolerance +	rack travel mm : 4.00
cm3/1000 strokes : 4.0 +	Rated speed rpm : 1085
Check tolerance	Tolerance 1/min : +- 15
cm3/1000s. : 6.0	rack travel mm : 0.85
Ţ	Tolerance mm : +- 0.55
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1200
WITH GOVERNOR	
+	
GUIDE SLEEVE POSITION	LOW IDLE
†	
control lever	control lever
position degree : - 3	position degree : 80.0
Rated speed rpm : 800 +	tolerance degree : +- 4.0
Rack travel in mm : 0.65	control lever
Tolerance mm : +- 0.35	position degree : 30.0
Total di lica inni	tolerance degree : + 4.0
governor spring	
pre-tension +	Setting point w/out bumper spring
click setting x : 5.50	750
	Rated speed rpm : 350 rack travel mm : 6.50
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
+	
Rated speed rpm : 1000	Rated speed rpm : 100
Aneroid pressure	CRT mm min. : > 19.00
hPa : - + Del. quantity +	CKT (MIII H) (T)
cm3/1000 strokes : 49.5	Testing:

Rated speed rpm	: 350
rack travel mm	: 7.00
Tolerance mm	: +- 0.10
rack travel mm	: 2.00
Rated speed rpm	: 555
Tolerance 1/min	: + 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1000 : 9.75 : ← 0.05
Rated speed rpm	: 500
rack travel mm	: 11.25
Tolerance mm	: +- 0.05
Rated speed rpm	: 700
rack travel mm	: 10.75
Tolerance mm	: ← 0.15

FUEL DELIVERY CHARACTERISTICS

hPa : - Rated speed rom : 500
Detail appeal see . FOO
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 54.5
Tolerance
cm3/1000 strokes : + 1.5
Check tolerance
cm3/1000s. : +- 3.0

Aneroid pressure			
hPa	:		-
Rated speed rpm	:		700
Del. quantity			
cm3/1000 strokes	:		54.0
Tolerance			
cm3/1000 strokes	:	+-	1.5
Check tolerance			
cm3/1000s.	:	+-	3.0

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	20.00
Tolerance mm	: +	- 1.00

Rated speed rpm : 350 Rack travel in mm : 7.00 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 8.5 Tolerance

Check tolerance cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.0

cm3/1000 strokes : +- 1.5

LOW IDLE

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition

: 25,02,97

Test oil

: ISO 4113

Combination No. : 9 407 083 296

Injection pump

Pump designation : PES4A8OD32ORS1282 EP type number : 9 400 083 056

Governor

Governer design. : RSV350...1500A2C2122

: -2R

Governer no.

: 9 420 083 286

Cust. part No. :

Customer-spec. information

Customer : MWM

Motor

: D 229-4

Power KW

: 64.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar : +- 1.5

Test Lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0 x Length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 2.25

÷ 0.05 Tolerance mm

Check

tolerance mm : ← 0.10

Rack travel in mm: 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : ← 0.50

Check

tolerance °NW : +- 0.75

Beginning of delivery differende

and maximum rack

travel : 10.50

Tolerance mm : + 1.50 Difference ° CS : 4.50 Tolerance mm

BASIC SETTING

Rated speed rpm : 1500

Rack travel in mm: 9.65

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 62.0

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance	+ Check tolerance
cm3/1000s, : +- 2.0	+ cm3/1000s. : +- 2.0
Cilis (0003,	Spreed
Spreed	
Spr eed	† Tolerance
T 1	+ cm3/1000 strokes : 2.5
Tolerance	+ Check tolerance
cm3/1000 strokes : 2.5	+ cm3/1000s. : 4.0
	+
Check tolerance	+
cm3/1000s. : 4.0	
	+ CONTROL LEVER
and appropriate the collection was about the collection of the col	+
	+ control lever
Rated speed rpm : 350	position degree : 112.0
Marea speed Ipiii . 330	tolerance degree : +- 4.0
Rack travel in mm : 7.00	T cocerance degree . + 4.0
	T DATES OFFER
Tolerance mm : + 0.10	+ RATED SPEED
Del. quantity	rack travel mm : 8.60
cm3/1000 strokes : 13.5	+ Rated speed rpm : 1575
Tolerance	+ Tolerance 1/min : +- 5
cm3/1000 strokes : + 1.5	+
Check tolerance	† rack travel mm : 4.00
cm3/1000s. : + 3.5	+ Rated speed rpm : 1625
Spreed	+ Tolerance 1/min : +- 15
Tolerance	+
cm3/1000 strokes : 4.0	rack travel mm : 0.85
Check tolerance	+ Tolerance mm : + 0.55
cm3/1000s. : 6.0	Rated speed rpm : 1800
. 0.0	Traced speed rpm . 1000
(B) SETTING OF INJECTION PUMP	Ī
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
WITH GOVERNOR	+
	LOW IDLE control lever
WITH GOVERNOR	control lever position degree : 74.0
WITH GOVERNOR	- control lever
WITH GOVERNOR	control lever position degree : 74.0
GUIDE SLEEVE POSITION	control lever position degree : 74.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION control lever position degree : - 3	control lever position degree : 74.0
GUIDE SLEEVE POSITION control lever	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nm : 6.50
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : + 0.35	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nsm : 6.50 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : +- 0.35 governor spring	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nm : 6.50
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : +- 0.35 governor spring pre-tension	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel n:m : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : +- 0.35 governor spring	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nm : 6.50 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : +- 0.35 governor spring pre-tension	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel n:m : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : +- 0.35 governor spring pre-tension	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing:
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : +- 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nm : 6.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : -	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nm : 6.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : +- 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : - Del. quantity	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nmm : 6.50 Tolerance mmm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mmm : 7.00 Tolerance mmm : + 0.10 rack travel mmm : 2.00
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : -	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nmm : 6.50 Tolerance mmm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mmm : 7.00 Tolerance mmm : + 0.10 rack travel mmm : 2.00 Rated speed rpm : 350
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 62.0 Tolerance	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nmm : 6.50 Tolerance mmm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mmm : 7.00 Tolerance mmm : + 0.10 rack travel mmm : 2.00
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : C.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 62.0	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel nmm : 6.50 Tolerance mmm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mmm : 7.00 Tolerance mmm : + 0.10 rack travel mmm : 2.00 Rated speed rpm : 350

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1500 : 9.65 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.75 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 10.50 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 10.15 : + 0.15
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: - : 500
Del. quantity cm3/1000 strokes	: 57.0
Tolerance cm3/1000 strokes	: + 1.5
Check tolerance cm3/1000s.	: +- 3.0
Aneroid pressure	-
Rated speed rpm Del. quantity	: 800
cm3/1000 strokes Tolerance	: 60.5
cm3/1000 strokes Check tolerance	: +- 1.5
cm3/1000s.	: + 3.0
Aneroid pressure	: -
Rated speed rpm Del. quantity	: 1100
cm3/1000 strokes Tolerance	: 63.5
cm3/1000 strokes Check tolerance	: + 1.5 : + 3.0
cm3/1000s.	

Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 20.00 : + 1.00 : 100.0 : + 8.0 : + 11.0
LOW IDLE	
Rated speed rpm	: 350
Rack travel in mm Tolerance mm	: 7.00 : + 0.10
Del. quantity cm3/1000 strokes	: 13.5
Tolerance cm3/1000 strokes	: + 1.5
Check tolerance cm3/1000S. Spreed	: + 3.5
Tolerance cm3/1000 strokes	: 4.0
Check tolerance	: 6.0
cm3/1000s.	. 0.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.04.97 Test oil : ISO 4113

Combination No. : 0 401 876 337

Injection pump

Pump designation : PE6P130A320S521 EP type number : 0 411 836 044

Governor

Governer design. : RSV350...1500P0A524

Governer no. : 0 421 833 256

Cust. part No. :

Customer-spec. information Customer : ISOTTA

Motor : ID38 SS-6V

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : +0 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

?restroke mm : 3.55 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 19.50 Tolerance mm : +- 1.50

Firing order : 1A- 2- 3A- 4- 5A-

: 6

Phasing : 0-45-120-165-240

: -285

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1500

Rack travel in mm : 12.55
Tolerance mm : +- 0.05

Total differ half

Del. quantity cm3/1000 strokes : 240.5

Tolerance

cm3/1000 strokes : + 1.5

<u> </u>	
Check tolerance	
cm3/1000s. : +- 5.0 +	
<u> </u>	CONTROL LEVER
Spreed	
1	control lever
Tolerance	position degree : 100.0
cm3/1000 strokes : 6.0	tolerance degree : +- 4.0
	total allocations and allocations are allocations and allocations are allocations and allocations are allocati
Check tolerance	RATED SPEED
cm3/1000s. : 10.0	rack travel mm : 11.50
10.0	Rated speed rpm : 1545
	Tolerance 1/min : +- 5
T	Toterance Minn . ** J
Rated speed rpm : 350	rack travel mm : 4.00
Rated speed rpm : 350	
Rack travel in mm: 6.90	Rated speed rpm : 1665
	Tolerance 1/min : +- 15
	- 1 b - 1 b - 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Del. quantity	rack travel mm : 0.85
cm3/1000 strokes : 23.0	Tolerance mm : + 0.55
Tolerance	Rated speed rpm : 1750
cm3/1000 strokes : + 3.0 +	
<u>†</u>	rack travel mm : 4.00
<u> </u>	Rated speed rpm : 1680
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : + 15
WITH GOVERNOR +	
+	
+	
CUIDE OF FEVE DOCITION	LOW IDLE
GUIDE SLEEVE POSITION +	LOW IDEE
GOIDE SLEEVE POSITION +	LOW IVEE
GOIDE SEEVE POSTITON	FOM INCE
control lever	control lever
control lever	control lever
control lever position degree : -3	control lever position degree : 72.0
control lever position degree : -3	control lever position degree : 72.0
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 72.0 tolerance degree : ← 4.0
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm: 0.50	control lever position degree : 72.0
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm: 0.50	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50	control lever position degree : 72.0 tolerance degree : 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing:
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90 Tolerance mm : + 0.20
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : 900	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90 Tolerance mm : + 0.20 rack travel mm : 2.00
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : 900 Del. quantity	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90 Tolerance mm : + 0.20 rack travel mm : 2.00 Rated speed rpm : 555
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 240.5	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90 Tolerance mm : + 0.20 rack travel mm : 2.00
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 240.5 Tolerance	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90 Tolerance mm : + 0.20 rack travel mm : 2.00 Rated speed rpm : 555
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 240.5 Tolerance cm3/1000 strokes : + 1.5	control lever position degree : 72.0 tolerance degree : 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90 Tolerance mm : 4.00 Rated speed rpm : 555 Tolerance 1/min : + 30
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 240.5 Tolerance cm3/1000 strokes : + 1.5 Check tolerance	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90 Tolerance mm : + 0.20 rack travel mm : 2.00 Rated speed rpm : 555 Tolerance 1/min : + 30
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 240.5 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90 Tolerance mm : + 0.20 rack travel mm : 2.00 Rated speed rpm : 555 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1500
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 240.5 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90 Tolerance mm : + 0.20 rack travel mm : 2.00 Rated speed rpm : 555 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1500 rack travel mm : 12.55
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Folerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 240.5 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90 Tolerance mm : + 0.20 rack travel mm : 2.00 Rated speed rpm : 555 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1500
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Folerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 240.5 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90 Tolerance mm : + 0.20 rack travel mm : 2.00 Rated speed rpm : 555 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1500 rack travel mm : 12.55 Tolerance mm : + 0.05
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Folerance mm : + 0.20 governor spring pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1500 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 240.5 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance	control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.40 Tolerance mm : + 0.10 Testing: Rated speed rpm : 350 rack travel mm : 6.90 Tolerance mm : + 0.20 rack travel mm : 2.00 Rated speed rpm : 555 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1500 rack travel mm : 12.55

: +- 3.10 Tolerance mm 400 Rated speed rpm 14.00 rack travel mm Tolerance mm : +- 0.30 Rated speed rpm 500 : 6.50 rack travel mm Tolerance ma : +- 0.01 Rated speed rpm 500 7.80 rack travel mm : +- 0.01 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 600 Pressure hPa 900 12.55 rack travel mm Tolerance mm : +- 0.05

Rated speed rom 600 : Pressure hPa 11.55 rack travel mm : : + 0.05 Tolerance mm

MEASUREMENT

Rated speed rpm : 600

Pressure hPa 300 11.95 rack traval mm : +- G.05 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

Rated speed rpm 500

Del. quantity

cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +-0.1

Delivery for shutoff assemblies (refer to cam sequence).

Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 85.0

Tolerance

cm3/1000 strokes : +-5.0

Aneroid pressure

hPa Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 198.5

Tolerance

cm3/1000 strokes : +-1.5

Check tolerance

cm3/1000s. 5.0

LOW IDLE

Delivery for standard plunger/barrel assemblies.

Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm : 350

Rack travel in mm : 6.90 Tolerance mm : **←** 0.20

Del. quantity

cm3/1000 strokes : 23.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.04.97 Edition : ISO 4113 Test oil

Combination No. : 0 402 640 816

Injection pump

Pump designation : PE12P120A520LS7824 EP type number : 0 412 620 816

Governor

Governer design. : RQV250...1150PA902

: -3

Governer no. : 0 421 813 761

Cust. part No. : 2-7959

Customer-spec. information

Customer

: MAN : D2842LXE

Motor Power KW

: 662.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

bar : 208.5

Tolerance bar

Test Lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter: 1.5

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 4.55 : + 0.50Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : **←** 1.50

Firing order : 12-1A- 5- 9A- 8

: - 3A- 4-11A- 10 : - 2A- 6- 7A

Phasing : **0-45-60-10**5-120

: -165-180-225-240

: -285-300-345

Tolerance : + 0.50

Check

tolerance "NW : + 0.75

Start of delivery mark

Tolerance : + 0.10

Check

tolerance *NW : **←** 0.75

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.75

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes	: 250,0	
Tolerance		GUIDE SLEEVE POSITION
cm3/1000 strokes	: +- 1.0	control lever
Check tolerance		position degree : - 1
cm3/1000s.	: +- 4.0	Rated speed rpm : 1225
Spreed	The first specific to the second	Rack travel in mm: 16.50
Tolerance		Tolerance mm : + 1.30
cm3/1000 strokes	: 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		+
cm3/1000S.	: 9.0	+ Rated speed rpm : 1150 + Aneroid pressure
		+ hPa : 1300
Data di ancesti co	350	+ Del. quantity
Rated speed rpm	: 250	+ cm3/1000 strokes : 250.0 + Tolerance
Rack travel in mm	7.80	+ cm3/1000 strokes : +- 1.0
Tolerance mm		+ Check tolerance
Del. quantity		+ cm3/1000s. : + 4.0
cm3/1000 strokes	: 56.0	+ Spreed
Tolerance		+ Tolerance
cm3/1000 strckes	: ÷- 4.0	+ cm3/1000 surples : 5.0
		+ Check tolerance + cm3/1000s. : 9.0
(B) SETTING OF IN	JECTION PUMP	+
WITH GOVERNOR		+
GUIDE SLEEVE TRAV	EL	CONTROL LEVER
		control lever
Rated speed rpm		control lever position degree : 121.0
Rated speed rpm guide sleeve	: 1150	control lever
Rated speed rpm guide sleeve travel mm		control lever position degree : 121.0
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1150 : 9.30 : + 0.10	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1150 : 9.30	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1150 : 9.30 : ← 0.10 : 250	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1150 : 9.30 : ← 0.10 : 250 : 1.00	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1150 : 9.30 : ← 0.10 : 250	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 1150 : 9.30 : ← 0.10 : 250 : 1.00	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1150 : 9.30 : + 0.10 : 250 : 1.00 : + 0.10 : 450	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 20
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1150 : 9.30 : + 0.10 : 250 : 1.00 : + 0.10 : 450 : 3.20	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 20 rack travel mm : 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1150 : 9.30 : + 0.10 : 250 : 1.00 : + 0.10 : 450	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 20 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1150 : 9.30 : + 0.10 : 250 : 1.00 : + 0.10 : 450 : 3.20	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 20 rack travel mm : 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1150 : 9.30 : + 0.10 : 250 : 1.00 : + 0.10 : 450 : 3.20 : + 0.30 : 750	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 20 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1150 : 9.30 : + 0.10 : 250 : 1.00 : + 0.10 : 450 : 3.20 : + 0.30	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 20 rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1400
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1150 : 9.30 : + 0.10 : 250 : 1.00 : + 0.10 : 450 : 3.20 : + 0.30 : 750 : 5.70 : + 0.20	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 20 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1150 : 9.30 : + 0.10 : 250 : 1.00 : + 0.10 : 450 : 3.20 : + 0.30 : 750 : 5.70 : + 0.20 : 1400	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 20 rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1400
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1150 : 9.30 : + 0.10 : 250 : 1.00 : + 0.10 : 450 : 3.20 : + 0.30 : 750 : 5.70 : + 0.20 : 1400 : 13.50	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 20 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1400 LOW IDLE control lever
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1150 : 9.30 : + 0.10 : 250 : 1.00 : + 0.10 : 450 : 3.20 : + 0.30 : 750 : 5.70 : + 0.20 : 1400	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : + 20 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1400 LOW IDLE

Setting point w/out	: bumper	spring
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100 Rated speed rpm :

CRT mm min. 8.90 : >

Testing:

Rated speed rpm 250 7.80 rack travel mm : +- 0.10 Tolerance mm

rack travel mm 2.00 Rated speed rpm 460 Tolerance 1/min

TORQUE CONTROL

Rated speed rpm 1150 12.75 rack travel mm Tolerance mm : **←** 0.05

Rated speed rpm 500 rack travel mm 7.40 Tolerance mm : + 0.10

Rated speed rpm 500 8.70 rack travel mm Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 500 1300 Pressure hPa rack travel mm 12.75 : +- 0.05 Tolerance mm

500 Rated speed rpm Pressure hPa 9.50 rack travel mm Tolerance mm : **←** 0.10

MEASUREMENT

Rated speed rpm 500

400 Pressure hPa : 12.10 rack travel mm Tolerance mm : +- 0.20

Pressure hPa 100 9.85 rack travel mm : + 0.05 Tolerance mm

Start interlock

Rated speed rpm :> 100 Rated speed rpm : < 170

Check

speed 1/min 80 Check

; < speed 1/min

FUEL DELIVERY CHARACTERISTICS

Delivery for shutoff assemblies (refer to cam sequence).

Arbitrary delivery for standard plunger barrel assemblies.

190

Aneroid pressure

hPa Rated speed rpm 500 Del. quantity

cm3/1000 strokes : 0.1

Tolerance

cm3/1000 strokes : +-0.1

Delivery for shutoff assemblies (refer to cam sequence).

Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 135.0

Tolerance

cm3/1000 strokes : + 10.0

Aneroid pressure

hPa

Rated speed rpm 500 Del. quantity

cm3/1000 strokes : 150.0 Tolerance

cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 19.30 Tolerance mm : +- 1.70

Del. quantity

cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : + 10.0

LOW IDLE

Delivery for standard plunger/barrel assemblies.

Zero delivery for shutoff assemblies (refer to can sequence).

Rated speed rpm : 250

Rack travel in mm : 7.80 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 56.0

Tolerance

cm3/1000 strokes : +- 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.04.97 Test oil : ISO 4113

Combination No. : 0 402 640 833

Injection pump

Pump designation : PE12P12OA520LS7829

: -1

EP type number : 0 412 620 827

Governor

Governer design. : RQV300...1150PA943

: -1

Governer no. : 0 421 813 869

Cust. part No. : 3-7156

Customer-spec. information

Customer : MAN

Motor : D2842LZE Power KW : 809.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 2.5 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 12-1A- 5- 9A- 8

: - 3A- 4-11A- 10 : - 2A- 6- 7A

Phasing : 0-45-60-105-120

: -165-180-225-240 : -285-300-345

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 14.95

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 338.0	‡
Tolerance cm3/1000 strokes : +- 1.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : +- 4.0	control leverposition degree : - 1Rated speed rpm : 1260
Spreed	Rack travel in mm: 13.90 Tolerance mm: +- 1.30
Tolerance cm3/1000 strokes : 5.0	
Check tolerance cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150
	+ Aneroid pressure + hPa : 1300 + Del. quantity
Rated speed rpm : 300	- cm3/1000 strokes : 338.0 - Tolerance
Rack travel in mm : 7.40 Tolerance mm : +- 0.10 Del. quantity	+ cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0
cm3/1000 strokes : 56.0 Tolerance	Spreed Tolerance
cm3/1000 strokes : +- 4.0	+ cm3/1000 scrokes : 5.0 - Check tolerance - cm3/1000s. : 9.0
(8) SETTING OF INJECTION PUMP WITH GOVERNOR	<u> </u>
GUIDE SLEEVE TRAVEL	CONTROL LEVER
	+ control lever
Rated speed rpm : 1150 guide sleeve	position degree : 124.0 tolerance degree : + 4.0
guide sleeve travel mm : 9.60 Tolerance mm : + 0.10	position degree : 124.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.90
guide sleeve travel mm : 9.60 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve	position degree : 124.0 tolerance degree : + 4.0 RATED SPEED
guide sleeve travel mm : 9.60 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.40 Tolerance mm : + 0.20	position degree : 124.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.90 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1315
guide sleeve travel mm : 9.60 Tolerance mm : +- 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.40	position degree : 124.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.90 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00
guide sleeve travel mm : 9.60 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.40 Tolerance mm : + 0.20 Rated speed rpm : 450 guide sleeve travel mm : 3.20 Tolerance mm : + 0.30	position degree : 124.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.90 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1315 Tolerance 1/min : + 15
guide sleeve travel mm : 9.60 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.40 Tolerance mm : + 0.20 Rated speed rpm : 450 guide sleeve travel mm : 3.20 Tolerance mm : + 0.30 Rated speed rpm : 750 guide sleeve travel mm : 750 guide sleeve travel mm : 5.90	position degree : 124.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.90 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1315 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
guide sleeve travel mm : 9.60 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.40 Tolerance mm : + 0.20 Rated speed rpm : 450 guide sleeve travel mm : 3.20 Tolerance mm : + 0.30 Rated speed rpm : 750 guide sleeve travel mm : 750 guide sleeve travel mm : 5.90 Tolerance mm : + 0.20	position degree : 124.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.90 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1315 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
guide sleeve travel mm : 9.60 Tolerance mm : + 0.10 Rated speed rpm : 300 guide sleeve travel mm : 1.40 Tolerance mm : + 0.20 Rated speed rpm : 450 guide sleeve travel mm : 3.20 Tolerance mm : + 0.30 Rated speed rpm : 750 guide sleeve travel mm : 750 guide sleeve travel mm : 5.90	position degree : 124.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.90 Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1315 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1400

Setting point w/o	out bumper spring
Rated speed rpm	: 100
CRT mm min.	: > 8.90
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 7.40 : +- 0.10
Rated speed rpm	: 345
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1150 : 14.95 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 7.40 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1300
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 9.10 : +- 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 470 : 12.60 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 100 : 9.55 : +- 0.05

Rated speed rpm Rated speed rpm	:	> <	100 240	
Check speed 1/min	:	>	80	
Check speed 1/min	:	<	260	
FUEL DELIVERY CHA	RAC	TER	RISTICS	THE THE SPECIAL PROPERTY OF THE PROPERTY OF TH
Delivery for shu (refer to cam se Arbitrary delive barrel assemblie	que ry	nce	e).	
Aneroid pressure hPa Rated speed rpm	:		_ 500	
Del. quantity cm3/1000 strokes			0.1	
Tolerance cm3/1000 strokes	:	+-	0.1	
Delivery for shu (refer to cam se Arbitrary delive barrel assemblie	que ry	nce	e).	
(refer to cam se Arbitrary delive barrel assemblie Aneroid pressure hPa	que ry s.	nce	e). · standar -	
(refer to cam se Arbitrary delive barrel assemblie Aneroid pressure hPa Rated speed rpm Del. quantity	que ry	nce	e). standar - 500	
(refer to cam se Arbitrary delive barrel assemblie Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	que ery es.	nce for	standar 500	
(refer to cam se Arbitrary delive barrel assemblie Aneroid pressure hPa Rated speed rpm Del. quantity cm3/10CO strokes	que ery es.	nce for	standar 500	
(refer to cam see Arbitrary deliver barrel assemblied Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Aneroid pressure hPa	que ery es.	nce for	500 135.0 10.0	
(refer to cam see Arbitrary delive barrel assemblie Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Aneroid pressure hPa Rated speed rpm Del. quantity	que ery es.	nce for	500 135.0 10.0	
(refer to cam see Arbitrary delive barrel assemblie Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Aneroid pressure hPa Rated speed rpm	que ery es.	nce for	500 135.0 10.0	
(refer to cam see Arbitrary delive barrel assemblied Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	que ery es.	nce for	500 135.0 10.0	
(refer to cam see Arbitrary deliver barrel assemblied Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	que ery es.	nce for	500 135.0 10.0 500 150.0	

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 19.30 Tolerance mm : + 1.70

Del. quantity

cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : + 10.0

LOW IDLE

Delivery for standard plunger/barrel assemblies.

Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm : 300

Rack travel in mm : 7.40 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 56.0

Tolerance

cm3/1000 strokes : +- 4.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 25.04.97 Edition Test oil : ISO 4113 Combination No. : 0 402 648 916 Injection pump Pump designation : PE8P12OA520LS7818-1 EP type number : 0 412 628 857 Governor Governer design. : RQV250...1150PA902 Governer no. : 0 421 813 720 Cust. part No. : 3-7150 Customer-spec. information Customer : MAN : D2848LXE 40 Motor : 500.0 Power KW TEST BENCH REQUIREMENTS Inlet line : 3.1 Test oil inlet temp. °C 40 Tolerance °C Overflow valve : 1 417 413 025 Inlet press. bar : 1.5 Tolerance bar : +- 0.1 Test nozzle holde : 1 688 901 019 assembly Opening pressure : 208.5 bar

x inside diameter : 3.0 x length mm : 1000 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values ____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : + 1.0 Prestroke mm 4.55 Tolerance mm : +- 0.05 Check tolerance mm : +- 0.10 Rack travel in mm : 10.50 Tolerance mm : +- 1.50 Firing order : 8-7A- 2- 6A- 3 : - 5A- 4- 1A : 0-45-90-135-180 Phasing : -225-270-315 Tolerance : +- 0.50 Check tolerance °NW : +- 0.75 Start of delivery mark Tolerance : \leftarrow 0.10 Check tolerance °NW : +- 0.75 Barrel no. : 8 BASIC SETTING Rated speed rpm : 1150 Rack travel in mm : 14.25 Tolerance mm : + 0.05 Del. quantity cm3/1000 strokes : 319.0

Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8.0

Tolerance cm3/1000 strokes	: +- 1.0	control lever position degree : - 1
Check tolerance cm3/1000s.	: +- 4.0	+ Rated speed rpm : 1250
Spreed		+ Rack travel in mm : 13.10 + Tolerance mm : + 1.40
Tolerance cm3/1000 strokes	: 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s.	: 9.0	Rated speed rpm : 1150 Aneroid pressure hPa : 1300
Rated speed rpm	: 250	<pre>Del. quantity cm3/1000 strokes : 319.0 Tolerance cm3/1000 strokes : + 1.0</pre>
Rack travel in mm Tolerance mm Del. quantity	: + 0.10	Check tolerance cm3/1000s. : +- 4.0
cm3/1000 strokes Tolerance cm3/1000 strokes		Tolerance cm3/1000 strokes : 5.0 Check tolerance
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	- cm3/1030S. : 9.0 - CONTROL LEVER
GUIDE SLEEVE TRAV	FI	control lever
Rated speed rpm guide sleeve travel mm		position degree : 122.0 tolerance degree : + 4.0 RATED SPEED
Tolerance mm Rated speed rpm	: +- 0.10 : 250	rack travel mm : 13.20 Rated speed rpm : 1195 Tolerance 1/min : + 5
guide sleeve travel mm Tolerance m m	: 1.50 : + 0.10	rack travel mm : 4.00 Rated speed rpm : 1325 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve travel mm Tolerance mm	: 850 : 6.60 : +- 0.30	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1450
Rated speed rpm guide sleeve	: 450	- Nated speed (pin)
travel mm Tolerance mm	: 3.70 : +- 0.30	LOW IDLE
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1450 : 13.50 : + 0.50	control lever position degree : 84.0 tolerance degree : + 4.0
GUIDE SLEEVE POSI	TION	Setting point w/out bumper spring Rated speed rpm : 100

CRT mm min.	; > 8.90
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 7.40 : +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 460
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1150 : 14.25 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolenance mm	: 500 : 8.30 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1300 : 14.25 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 9.00 : + 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 470 : 12.45 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 100 : 9.35 : +- 0.05
Start interlock	

Rated speed rpm : < 200
Check speed 1/min :> 80
Check speed 1/min : < 220
FUEL DELIVERY CHARACTERISTICS
Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.
Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 0.1
Tolerance cm3/1000 strokes : +- 0.1
Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.
Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 135.0 Tolerance cm3/1000 strokes : +- 10.0
Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 150.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
STARTING FUEL DELIVERY
Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 110.0 Tolerance cm3/1000 strokes : +- 10.0
Check tolerance cm3/1000s. : +- 14.0

Rated speed rpm : > 100

LOW IDLE

Delivery for standard plunger/barrel assemblies.

Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm : 250

Rack travel in mm : 7.40 : ← 0.10 Tolerance mm

Del. quantity cm3/1000 strokes : 56.0

Tolerance

cm3/1000 strokes : +- 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 24.04.97

Test oil

: ISO 4113

Combination No. : 0 402 648 977

Injection pump

Pump designation : PE8P12OA52OLS7818-2

EP type number : 0 412 628 887

Governor

Governer design. : RQV300...1150PA1039

: -2K

Governer no.

: 0 421 815 316

Cust. part No. : 3-7224

Customer-spec. information

Customer : MAN

Motor

: D2848LE401

Power KW

: 500.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve

: 1 417 413 025

Inlet press. bar :

1.5

Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter :

3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.55 Tolerance mm : +- 0.50

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 8-7A-2-6A-3

: - 5A- 4- 1A

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : **←** 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.40

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 330.0

	_	+ guide sleeve
Tolerance	the part that they then the sign and the sign and the same the same that the same the same	travel mm : 4.21
cm3/1000 strokes	: + 1.0	Tolerance mm : +- 0.25
Check tolerance	: +- 4.0	Rated speed rpm : 1450 guide sleeve
		travel mm : 13.50
Spreed	-	Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes	: 5.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000S.	: 9.0	control lever position degree : - 1
	ng and Pilotan Pilotan ng ng nganah dan aming ng n	Rated speed rpm : 1280
Rated speed rpm	: 300	Rack travel in mm : 13.40 Tolerance mm : +- 1.30
Rack travel in mm	: 7.10	Total and the first
Tolerance mm	÷ + 0.10	
Del. quantity	•	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes	: 56.0	-
Tolerance	-	Rated speed rpm : 1150
cm3/1000 strokes	: +- 4.0	Aneroid pressure
	-	† hPa : 1500
	-	Del. quantity
(B) SETTING OF INJ	JECTION PUMP -	cm3/1000 strokes : 330.0
WITH GOVERNOR	•	Tolerance
	-	cm3/1000 strokes : +- 1.0
CUITAG OF FOUR TOAK	PA.	Check tolerance
GUIDE SLEEVE TRAVE	EL -	+ cm3/1000s. : +- 4.0
Rated speed rpm	: 1206	+ Spreed
guide sleeve	: 1206	+ Tolerance + cm3/1000 strokes : 5.0
travel mm	: 10.43	Check tolerance
Tolerance mm	: +- 0.25	+ cm3/1000s. : 9.0
	-	7.0
Rated speed rpm guide sleeve	: 300	<u> </u>
travel mm	: 2.24	CONTROL LEVER
Tolerance mm	: +- 0.25	- SONTINGE ELECTION
· · · · · · · · · · · · · · · · · · ·		control lever
Rated speed rpm	: 795	position degree : 120.0
guide sleeve	-	tolerance degree : +- 4.0
travel mm	: 6.88	+
Tolerance mm	: +- 0.25	RATED SPEED
		rack travel mm : 13.40
Rated speed rpm	: 329	Rated speed rpm : 1195
guide sleeve	. 75	Tolerance 1/min : +- 8
travel mm	2.75	†
Tolerance mm	: +- 0.25	rack travel mm : 4.00
Dodayal amanal	. 370	Rated speed rpm : 1325
Rated speed rpm	: 379 -	Tolerance 1/min : +- 15
guide sleeve	: 3.53	t rack travel mm : 0.50
travel mm Tolerance mm	: + 0.25 -	Tolerance mm : 0.50
roterance mm	. , . 0.25	Rated speed rpm : 1450
Rated speed rpm	: 450 -	1

	+ Tolerance mm : +- 0.20
LOW IDLE	+ MEASUREMENT
control lever	Rated speed rpm : 1150
position degree : 77.0 tolerance degree : +- 4.0	Pressure hPa : 1000 rack travel mm : 12.40 Tolerance mm : +- 0.15
Setting point w/out bumper spring	Pressure hPa : 480
Rated speed rpm : 200	rack travel mm : 10.15 Tolerance mm : +- 0.05
CRT mm min. : > 8.20	<u> </u>
Testing:	Start interlock
Rated speed rpm : 300 rack travel mm : 7.10 Tolerance mm : + 0.10	Rated speed rpm : > 200 Rated speed rpm : < 240
Rated speed rpm : 345	Check speed 1/min : < 260
TORQUE CONTROL Rated speed rpm : 1150 rack travel mm : 14 40	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 14.40 Tolerance mm : +- 0.05	Aneroid pressure hPa : 1500
Rated speed rpm : 700 rack travel mm : 12.90 Tolerance mm : + 0.10	Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 274.0
Rated speed rpm : 900	Tolerance cm3/1000 strokes : +- 3.0
rack travel mm : 13.70 Tolerance mm : +- 0.10	+ Check tolerance + cm3/1000S. : +- 6.0 + Spreed
Rated speed rpm : 500 rack travel mm : 6.90 Tolerance mm : + 0.10	Tolerance cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm : 500	- cm3/1000s. : 12.0
rack travel mm : 8.30 Tolerance mm : + 0.10	Aneroid pressure hPa : 1500 Rated speed rpm : 900
ANEROID/ALTITUDE COMPENSATOR TEST	+ Del. quantity + cm3/1000 strokes : 302.0 + Tolerance
SETTING	- cm3/1000 strokes : +- 3.0 - Check tolerance
Rated speed rpm : 1150 Pressure hPa : 1500	- cm3/1000s. : +- 6.0 - Spreed - Tolerance
rack travel mm : 14.40 Tolerance mm : +- 0.05	cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm : 1150	+ cm3/1000s. : 12.0
Pressure hPa : - rack travel mm : 9.80	Delivery for shutoff assemblies

(refer to cam sequence).
Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

hPa : Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 0.1

Tolerance

cm3/1000 strokes : +- 0.1

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 135.0

Tolerance

cm3/1000 strokes : + 10.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 170.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

Delivery for standard plunger/barrel assemblies. Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm : 300

Rack travel in mm: 7.10
Tolerance mm: +- 0.10

Del. quantity

cm3/1000 strokes : 56.0

Tolerance

cm3/1000 strokes : +- 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 24.04.97

Test oil

: ISO 4113

Combination No. : 0 402 649 807

Injection pump

Pump designation : PE10P120A520LS7811

EP type number : 0 412 629 802

Governor

Governer design. : RQV250...1150PA902

Governer no.

: 0 421 813 720

Cust. part No. : 2-7961

Customer-spec. information

Customer : MAN

Motor

: D 2840 LX

Power KW

: 603.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter: 1.5 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

4.95 Prestroke mm

: +- 0.05

Tolerance mm

Check

tolerance mm : + - 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

: 10-9A- 4- 1A- 8

: - 7A- 6- 3A- 5

: - 2A

: 0-45-72-117-144 Phasing

: -189-216-261-288

: -333

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Firing order

Tolerance : +- 0.10

Start of delivery mark

Check

tolerance °NW : +- 0.75

Barrel no.

: 10

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.75

Tolerance mm : \leftarrow 0.05

Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 Rack travel in mm : 16.50 Tolerance mm : +- 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : 1600 Del. quantity	and and
Check tolerance cm3/1000s. : +- 4.0	thin and the
Rack travel in mm : 16.50 Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 Rack travel in mm : 16.50 Tolerance mm : +- 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : 1600 Del. quantity	-
Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000S.: 9.0 Rated speed rpm: 1150 Aneroid pressure hPa: 1600 Del. quantity	
Check tolerance cm3/1000s. : 9.0	
hPa : 1600 + Del. quantity	
Rated speed rpm : 250 + cm3/1000 strokes : 297.0 + Tolerance Rack travel in mm : 7.40 + cm3/1000 strokes : +- 1.0	
Tolerance mm : + 0.10 + Check tolerance cm3/1000s. : + 4.0	
cm3/1000 strokes : 56.0 + Spreed Tolerance cm3/1000 strokes : + 4.0 + cm3/1000 strokes : 5.0	
- Check tolerance - cm3/1000s. : 9.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
GUIDE SLEEVE TRAVEL CONTROL LEVER	
Rated speed rpm : 1150 + position degree : 122.0 + tolerance degree : +- 4.0	
travel mm : 9.60 + Tolerance mm : + 0.10 + RATED SPEED + rack travel mm : 12.70	
Rated speed rpm : 250 + Rated speed rpm : 1195 guide sleeve + Tolerance 1/min : +- 5 travel mm : 1.30 +	
Tolerance mm : +- 0.20 + rack travel mm : 4.00 + Rated speed rpm : 1305	
Rated speed rpm : 500 + Tolerance 1/min : + 15 guide sleeve + travel mm : 0.50	
Tolerance mm : +- 0.20 + Tolerance mm : +- 0.50 + Rated speed rpm : 1450	
Rated speed rpm : 850 + consider sleeve + consid	
Tolerance mm : + 0.20 + LOW IDLE Rated speed rpm : 1400 +	
guide sleeve travel mm : 13.50 - control lever Tolerance mm : +- 0.50 - position degree : 83.0 - tolerance degree : +- 4.0	

Setting	point	w/out	bumper	spring
---------	-------	-------	--------	--------

Rated	speed	rom	:	100
1/46-44	SPCCG	` NA.	•	100

CRT mm min. : > 8.90

Testing:

Rated speed rpm	:	250
rack travel mm	:	7.40
Tolerance mm	; +	- 0.10

rack travel mm	:		2.00
Rated speed rpm	:		460
Tolerance 1/min	:	+-	30

Rated speed	rpm	:	1	1150
rack travel	mm	:		13.75
Tolerance mm)	:	+-	0.05

Rated speed rpm	:	500
rack travel mm	:	7.40
Tolerance mm	: +-	0.10

Rated speed rpm		500
rack travel mm	:	9.00
Tolerance mm	: +	- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	500
Pressure hPa	:	1600
rack travel mm	:	13.75
Tolerance mm	:	← 0.05

Rated speed rpm	:	500
Pressure hPa	:	~
rack travel mm	:	9.30
Tolerance mm	: +-	0.10

MEASUREMENT

Rated	speed	rpm	:	500
-------	-------	-----	---	-----

Pressure hPa	:	470
rack travel mm	:	12.40
Tolerance mm	: +	- 0.20

Pressure hPa	:	100
rack travel mm	:	9.65
Tolerance mm	: +	- 0.05

Start interlock

Rated	speed	rpm	:	>	100
Rated	speed	rpm	:	<	200

Check

speed 1/min :> 80 Check

speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Delivery for shutoff assemblies (refer to cam sequence).
Arbitrary delivery for standard plunger

Arbitrary delivery for standard plumbarrel assemblies.

Aneroid pressure

nPa : Rated speed rpm : 500
Del. quantity

cm3/1000 strokes : 0.1

Tolerance

cm3/1000 strokes : \leftarrow 0.1

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger

Aneroid pressure

barrel assemblies.

hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 135.0
Tolerance

cm3/1000 strokes : + 10.0

Aneroid pressure
hPa : Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 150.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance

cm3/1000s. : +- 4.0 Spreed

Tolerance cm3/1000 strokes :

Check tolerance cm3/1000s. : 12.0

8.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 19.30 Tolerance mm : +- 1.70

Del. quantity

cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : +- 10.0

LOW IDLE

Delivery for standard plunger/barrel assemblies.

Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm : 250

Rack travel in mm: 7.40 Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 56.0

Tolerance

cm3/1000 strokes : +- 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24,04,97 Edition Test oil : TSO 4113

Combination No. : 0 402 649 813

Injection pump

Pump designation : PE10P120A520LS7825

: -1

EP type number : 0 412 629 809

Sovernor

Governer design. : RQV250...1150PA902

: -3

Governer no. : 0 421 813 761

Cust. part No. : 3-7151

Customer-spec. information

Customer : MAN

: D 2840 LXE Motor Power KW : 603.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

bar 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x length mm : 1000

2.5

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

: 4.55 Prestroke mm

: +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 10-9A- 4- 1A- 8

: - 7A- 6- 3A- 5

: - 2A

: 0-45-72-117-144 Phasina

: -189-216-261-288

: -333

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 10

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.35

Tolerance mm : +- 0.50

Del. quantity cm3/1000 strokes	: 295.0	GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes	: + 1.0	Rated speed rpm : 1280
Check tolerance cm3/1000s.	: + 4.0	Rack travel in mm : 12.30 Tolerance mm : + 1.30
Spreed		FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance cm3/1000 strokes	: 5.0	Rated speed rpm : 1150 Aneroid pressure
Check tolerance cm3/1000S.	: 9.0	hPa : 1300 Del. quantity cm3/1000 strokes : 295.0
Rated speed rpm	: 250	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Rack travel in mm Tolerance mm		cm3/1000S. : +- 4.0 Spreed Tolerance
Del. quantity cm3/1000 strckes Tolerance cm3/1000 strckes	+	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
(B) SETTING OF IN	+	CONTROL LEVER
WITH GOVERNOR	Ţ	control lever
GUIDE SLEEVE TRAV	EL	position degree : 122.0 tolerance degree : +- 4.0
Rated speed rpm guide sleeve travel mm Tolerance mm	: 9.30	RATED SPEED rack travel mm : 12.30 Rated speed rpm : 1195 Tolerance 1/min : +- 5
Rated speed rom guide sleeve travel mm Tolerance mm	: 250 : 1.00 : + 0.10	rack travel mm : 4.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve travel mm Tolerance mm	: 450 : 3.20 : +- 0.30	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1450
Rated speed rpm guide sleeve travel mm Tolerance mm	: 750 : 5.70 : + 0.20	LOW IDLE
Rated speed rpm guide sleeve travel mm	: 1400 : 13.50	control lever position degree : 80.0 tolerance degree : +- 4.0
Tolerance mm	: +- 0.50	Setting point w/out bumper spring

Rated speed rpm	: 100
CRT mm min.	: > 8.90
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 7.40 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 460 : + 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1150 : 13.35 : + 0.50
Rated speed rpm rack travel mm Tolerance mm	: 500 : 6.90 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 8.20 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1300 : 13.35 : + 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	500 8.90 + 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 470 : 12.20 : + 0.20
Pressure hPa	: 100

Rated speed rpm Rated speed rpm	: >	100 200
Check speed 1/min Check	; >	80
speed 1/min	; <	220

FUEL DELIVERY CHARACTERISTICS

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure		
hPa	:	_
Raced speed rpm	:	50U
Del. quantity		
cm3/1000 strokes	:	0.1
Tolerance		
cm3/1000 strokes	: +-	0.1

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure		
hPa	:	_
Rated speed rpm	:	500
Del. quantity cm3/1000 strokes	:	135.0
Tolerance cm3/1000 strokes	: +	- 10.0

Aneroid pressure			
hPa	:		_
Rated speed rpm	:		500
Del. quantity			
cm3/1000 strokes	•		150.0
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	4.0
Spreed			
Tolerance			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000s.	:		12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 19.30 Tolerance mm : **←** 1.70

Del. quantity cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : +- 10.0

LOW IDLE

Delivery for standard plunger/barrel assemblies.

Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm : 250

Rack travel in mm: 7.40 Tolerance mm : \leftarrow 0.10

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : +- 4.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.04.97 Test oil : ISO 4113

Combination No. : 0 402 899 301

Injection pump

Pump designation : PE10P120A520LS8523

EP type number : 0 412 829 202

Governor

Governer design. : RE30

Governer no. : 0 421 890 040

Cust. part No. : 51.11103-7531

Customer-spec. information

Customer : MAN

Motor : D 2840 LE 403

Power KW : 772.0

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 089

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.20 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 13.00 Tolerance mm : + 0.50

Firing order : 1A- 8-7A- 6- 3A- 5

: - 2A- 10- 9A- 4

Phasing : 0-27-72-99-144-171

: -216-243-283-315

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.10

Check

tolerance °NW : + 0.75

Barrel no. : 10

(B) POSITIONER TESTING Warm-up time: 3 minutes at

warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point (P, R and H pump)

Uact V : 3.100 CRT mm : 13.00 Tolerance mm : +/- 0.05

Check

tolerance mm : $\pm - 0.10$

Check value (P, R and H pump)

Uact V : 1.700 CRT mm : 6.15 Tolerance mm : +/- 0.25 Check

tolerance mm : ± -0.30

Setting point (M pump)

Uact V : 3.100 CRT mm : 12.50 Tolerance mm : +/- 0.05

Check

tolerance mm : \pm : \pm 0.10

Check value (M pump)

 Uact V
 : 1.700

 CRT mm
 : 5.50

 Tolerance mm
 : +/- 0.25

Check

tolerance mm : ± -0.30

Stop position

Uact V : Value with

deenergised adjusting magnet and control rod in

stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25

Check

tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min-1: 60
Amplitude V: 1.4
Tolerance V: +/- 0.6

Check

tolerance V : ± 1.20

Engine speed min-1: 600

Difference

Amplitude to

Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 1150 Uact V : 3.360

Del. quantity

cm3/1000 strokes : 332.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0 FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 500
Uact V : 2.220

Del. quantity

cm3/1000 strokes : 180.0

Tolerance

cm3/1000 strokes : \leftarrow 5.0

Check tolerance

cm3/1000s. : +- 9.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Delivery for shutoff assemblies (refer to cam sequence).

Arbitrary delivery for standard plunger barrel assemblies.

Rated speed rpm : 500 Uact V : 1.940

Del. quantity

cm3/1000 strokes : 0.1

Tolerance cm3/1000 strokes : +- 0.1

Check tolerance cm3/1000s. : +-

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.

0.1

Rated speed rpm : 500 Uact V : 2.160

Del. quantity

cm3/1000 strokes : 165.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 15.0

TEST POINT L1

Delivery for standard plunger/barrel assemblies.

Zero delivery for shutofi assemblies (refer to cam sequence).

Rated speed rpm : 300 Uact V : 1.600 Tolerance Volt : + 0.060

Check tolerance

Volt : + 0.080

Del. quantity

cm3/1000 strokes : 24.0

Tolerance

cm3/1000 strokes : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 06.05.97

Test oil

: ISO 4113

Combination No. : 9 400 083 449BC

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1100A2C2209

: R

Governer no.

: 9 420 083 201

Cust. part No. : 3353232-VERSA012

Customer-spec. information

Customer

: CUMMINS

Motor

: 6 CT 8.3

Power KW

: 154.6

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

: 173.5

Tolerance bar : + 1.5

Test lines

: 1 680 750 014

Outside diameter : 6.0

E01

x inside diameter: 2.0 x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

: 2.85 : + 0.05 Prestroke mm

Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50

Tolerance mm : ← 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : ← 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 10.00 Tolerance : + 0.10

Check

tolerance *NW : ← 0.23

Barrel no. : 1

Beginning of delivery differende

and maximum rack

: 10.50 travel Tolerance mm : + 1.50

Difference ° CS : 3.50

BASIC SETTING

Rated speed rpm	: 1100	
Rack travel in mm Tolerance mm	: 12.25 : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure
Del. quantity cm3/1000 strokes	: 118.0	hPa : - Del. quantity
Tolerance cm3/1000 strokes	: + 1.0	cm3/1000 strokes : 118.0 Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000S.	: + 3.0	Check tolerance cm3/1000s. : +- 3.0 Spreed
Spreed		Tolerance cm3/1000 strokes : 3.5 Check tolerance
Tolerance cm3/1000 strokes	: 3.5	cm3/1000s. : 8.0
Check tolerance cm3/1000S.	: 8.0	CONTROL LEVER
Rated speed rpm	: 450	<pre>control lever position degree : 90.0 tolerance degree : +- 4.0</pre>
Rack travel in mm	: 5.10	RATED SPEED
Tolerance mm Del. quantity	: + 0.10	rack travel mm : 11.30 Rated speed rpm : 1150
cm3/1000 strokes Tolerance	+	Tolerance 1/min : + 5
cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 4.5	rack travel mm : 4.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15
Spreed Tolerance cm3/1000 strokes Check tolerance	: 5.5	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1350
cm3/1000S.	: 9.0	Nated Speed Ppiii . 1330
(B) SETTING OF IN- WITH GOVERNOR	JECTION PUMP	LOW IDLE
GUIDE SLEEVE POSI	TION	control lever position degree : 67.0 tolerance degree : + 4.0
control lever		Setting point w/out bumper spring
position degree Rated speed rpm	: - 3 +	Rated speed rpm : 450 rack travel mm : 4.60
Rack travel in mm Tolerance mm		Tolerance mm : + 0.10
governor spring	+	Rated speed rpm : 100
pre-tension click setting x	: 2.50	CRT mm min. : > 19.00

Testing:

Rated speed rpm : 450 rack travel mm : 5.10 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 600
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 12.25 Tolerance mm : + 0.05

Rated speed rpm : 500 rack travel mm : 12.30 Tolerance mm : +- 0.10

Rated speed rpm : 400 rack travel mm : 12.85 Tolerance mm : + 0.25

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity

cm3/1000 strokes : 142.0 Tolerance

cm3/1000 strokes : + 8.0 Check tolerance

cm3/1000s. : \leftarrow 11.0

LOW IDLE

Rated speed rpm : 450

Rack travel in mm : 5.10 Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes : 12.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance cm3/1000s.

cm3/1000s. : + 4.5

Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance cm3/1000s.

: 9.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 06.05.97 : ISO 4113 Test oil Combination No. : 9 400 085 339 Injection pump Pump designation : PES4A95D410RS2774 EP type number : 9 400 084 019 Governor Governer design. : RQV300...1300AB1066 : -11L : 9 420 080 309 Governer no. Cust. part No. : 0200742602 Customer-spec. information Customer : MBB : OM 364 LA Motor : 100.0 Power KW TEST BENCH REQUIREMENTS Inlet line : 4.1 Test oil inlet temp. °C Tolerance °C 2.0 Overflow valve : 1 419 992 198 Inlet press. bar : 1.5 Test nozzle holde assembly : 0 681 343 009 Opening pressure : 173.5 bar

x length mm : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values ____ BECINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : +- 1.0 Prestroke mm 3.25 Tolerance mm : +- 0.05 Check : +- 0.10 tolerance mm Rack travel in mm : 10.50 Tolerance mm : +- 1.50 Firing order : 1-3-4-2 Phasing : 0-90-180-270 Tolerance : +- 0.50 Check tolerance °NW : +- 0.75 BASIC SETTING Rated speed rpm : 1300 Rack travel in mm: 11.55 Tolerance mm : +- 0.05 Del. quantity cm3/1000 strokes : 103.0 Tolerance cm3/1000 strokes : \leftarrow 1.0 Check tolerance cm3/1000s. : +--3.0 Spreed Tolerance cm3/1000 strokes : 3.5

x inside diameter :

3.0

Tolerance bar

Test Lines : 1 680 750 015

6.0

Outside diameter :

	+	Rated speed rpm : 1395
Check tolerance cm3/1000s.	: 8.0	Rack travel in mm : 16.50 Tolerance mm : +- 1.30
Rated speed rpm	: 300	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm Tolerance mm Del. quantity	7.00	Rated speed rpm : 1300 Aneroid pressure hPa : 800
cm3/1000 strokes Tolerance	+	Del. quantity cm3/1000 strokes : 103.0
cm3/1000 strokes Check tolerance cm3/1000s.	+	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Spreed Tolerance	+	cm3/1000s. : +- 3.0 Spreed
cm3/1000 strokes Check tolerance cm3/1000s.	+	Tolerance cm3/1000 strokes : 3.5 Check tolerance
Cm37 10005.	: 9.0	cm3/1000s. : 8.0
(B) SETTING OF IN WITH GOVERNOR	NECTION PUMP	CONTROL LEVED
		CONTROL LEVER
GUIDE SLEEVE TRAV	'EL ±	control lever position degree : 63.0
Rated speed rpm guide sleeve	: 1000	tolerance degree : +- 4.0
travel mm Tolerance mm	: 5.75 : + 0.25	control lever position degree : 112.0 tolerance degree : +- 4.0
Rated speed rpm guide sleeve	: 1350	RATED SPEED
travel mm Tolerance mm	: 8.20 : + 0.10	rack travel mm : 10.50 Rated speed rpm : 1360 Tolerance 1/min : +- 5
Rated speed rpm guide sleeve	: 300	Tolerance 1/min : +- 5 rack travel mm : 4.00
travel mm Tolerance mm	: 1.05 : +- 0.25	Rated speed rpm : 1475 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve	: 700	rack travel mm : 0.50 Tolerance mm : +- 0.50
travel mm Tolerance mm	: 4.25 : +- 0.25	Rated speed rpm : 1630
Rated speed rpm guide sleeve	: 1450	
travel mm Tolerance mm	: 9.15 : + 0.25	LOW IDLE
GUIDE SLEEVE POSI	TION	<pre>control lever position degree : 68.0 tolerance degree : + 4.0</pre>
control lever position degree	: - 1	control lever position degree : 20.0

tolerance degree	: +- 4.0	
Setting point w/o	ut bumper spring	Start interlock
Rated speed rpm	: 100	Rated speed rpm : > 100 Rated speed rpm : < 250
CRT mm min.	: > 9.00	Check
Testing:	1	speed 1/min : > 80 Check
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: + 0.10	speed 1/min : < 270 FUEL DELIVERY CHARACTERISTICS
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 1300 : 11.55 : + 0.05 : 700 : 11.85 : + 0.05	Aneroid pressure hPa : 800 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 97.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.0
rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 11.75 : + 0.05 : 950 : 11.85	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 55.0 Tolerance
ANEROID/ALTITUDE COMPENSATOR TEST	+	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
SETTING	<u> </u>	STARTING FUEL DELIVERY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 800 : 11.85 : + 0.05	Rated speed rpm : 100 rack travel mm : 13.40 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 86.0
Rated speed rpm Pressure hPa	: 500	Tolerance cm3/1000 strokes : +- 7.5
MEASUREMENT	‡	Check tolerance cm3/1000s. : + 10.0
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 500 : 1.80 : + 0.15	LOW IDLE Rated speed rpm : 300
Pressure hPa rack travel mm Tolerance mm	: 380 : 0.75 : + 0.10	Rack travel in mm: 7.00 Tolerance mm: +- 0.10

Del. quantity cm3/1000 strokes	:	9.5
Tolerance cm3/1000 strokes Check tolerance	: +-	2.0
cm3/1000s.	: +-	4.5
Tolerance cm3/1000 strokes	:	5.5
Check tolerance cm3/1000s.	:	9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05,05,97 : ISO 4113

Combination No. : 0 402 076 796

Injection pump

Pump designation : PES6P120A720RS3352

EP type number

: 0 412 026 780

Governor

Governer design. : RSV400...1000P2A638

Governer no.

: 0 421 833 547

Cust. part No. : RE66421

Customer-spec. information Customer : DEERE

: 6081HDW03 Motor

Power KW

: 123.0

TEST BENCH REQUIREMENTS

Inlet line

: 4.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Cverflow valve

: 1 457 413 010

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 015

Outside diameter : 6.0

x inside diameter:

3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : +- 1.0

Prestroke mm 3.60 : +- 0.05

Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

"NW after s.o.d. : 7.75 Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Barrel no.

: 1

Beginning of delivery differende

and maximum rack

travel

14.00

Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm

1000

1	
Rack travel in mm : 11.00 Tolerance mm : +- 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 121.0	Rated speed rpm : 1000 Aneroid pressure hPa : -
Tolerance cm3/1000 strokes : +- 1.0	Del. quantity cm3/1000 strokes : 121.0 Tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
Spreed	Spreed Tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	
	CONTROL LEVER
Rated speed rpm : 400 Rack travel in mm : 5.60	<pre>control lever position degree : 94.0 tolerance degree : +- 4.0</pre>
Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 23.5 Tolerance	RATED SPEED rack travel mm : 10.00 Rated speed rpm : 1055
cm3/1000 strokes : +- 3.0 +- Check tolerance	Tolerance 1/min : +- 5
<pre>cm3/1000S. : + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0</pre>	rack travel mm : 4.00 Rated speed rpm : 1115 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : 8.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1250
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	
control lever position degree : -3	LOW IDLE
Rated speed rpm : 800	control lever position degree : 75.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	tolerance degree : +- 4.0 Setting point w/out bumper spring
governor spring pre-tension click setting x : 4.75	Rated speed rpm : 400 rack travel mm : 5.10 Tolerance mm : +- 0.10

Rated speed rpm : 100 : > 19.00 CRT mm min. Testing: Rated speed rpm : 400 rack travel mm : 5,60 : +- 0.10 Tolerance mm TORQUE CONTROL Rated speed rpm 1000 rack travel mm 11.00 : +- 0.05 Tolerance mm 700 Rated speed rpm : 11.60 rack travel mm : : +- 0.10 Tolerance mm Start interlock Rated speed rpm : > 100 Check speed 1/min : > 80 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 700 Rated speed rpm : Del. quantity cm3/1000 strokes : 139.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. : +- 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 105.0 Tolerance cm3/1000 strokes : +- 20.0Check tolerance cm3/1000s. : +- 25.0

LOW IDLE Rated speed rpm : 400 Rack travel in mm : 5.60 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 23.5 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.97 Test oil : ISO 4113

Combination No. : 0 402 736 907

Injection pump

Pump designation : PES6P12OA72ORS7351 EP type number : 0 412 726 922

Governor

Governer design. : RQV450...1100PA1334K

Governer no. · 0 421 815 549

Cust. part No. : 3931940

Customer—spec. information Customer : CDC Motor : 6CTA-A Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 4.40 Tolerance mm : + 0.03

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 8.00 Tolerance : + 0.50

Check

tolerance "NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.25 Tolerance mm : +- 0.05

E11

	+ guide sleeve
Del. quantity cm3/1000 strokes : 227.0	travel mm : 13.50 Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes : +- 1.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s. : + 4.0	Rated speed rpm : 1100 Aneroid pressure
Spreed	hPa : 1600 Del. quantity
Tolerance cm3/1000 strokes : 5.0	+ cm3/1000 strokes : 227.0 + Tolerance - cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : 9.0	+ Check tolerance - cm3/1000S. : +- 4.0 - Spreed - Tolerance
Rated speed rpm : 450	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
	+ cm5/10005. : 9.0
Rack travel in mm : 6.40 Tolerance mm : + 0.20 Del. quantity	CONTROL LEVER
cm3/1000 strokes : 32.0 Tolerance	t control lever
cm3/1000 strokes : +- 3.0 Check tolerance	position degree : 117.0 tolerance degree : +- 4.0
cm3/1000s. : +- 5.0 Spreed Tolerance	+ RATED SPEED + rack travel mm : 13.20
cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 1170 Tolerance 1/min : +- 15
cm3/1000s. : 12.0	rack travel mm : 8.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1250 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVEL	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1350
Rated speed rpm : 1162	‡
guide sleeve travel mm : 7.49	
Tolerance mm : + 0.15	+ LOW IDLE
Rated speed rpm : 450 guide sleeve	t control lever
travel mm : 1.33 Tolerance mm : + 0.20	+ position degree : 79.0 + tolerance degree : +- 4.0
Rated speed rpm : 860 guide sleeve	Control lever difference Grad: 38.0
travel mm : 4.55 Tolerance mm : +- 0.25	tolerance degree : +- 6.0
Rated speed rpm : 1560	Setting point w/out bumper spring
	Rated speed rpm : 375

		+ Check	
CRT mm min.	: > 7.70	+ speed 1/min	: < 400
T4.3		†	
Testing:		EUEL DELTVEDY CH	ADACTEDISTICS
Rated speed rpm	• 450	FUEL DELIVERY CH	ARACIERISIICS
rack travel mm	6.40	1	
rack travel mm Tolerance mm	: +- 0.20	+ Aneroid pressure	
TOCCT GITTO THIN			: 1600
Rated speed rpm	: 525	+ hPa + Rated speed rpm	: 750
		+ Del. quantity	
			: 218.0
TORQUE CONTROL		+ Tolerance	
Rated speed rpm rack travel mm Tolerance mm	: 1100	+ cm3/1000 strokes	: +- 3.0
rack travel mm	: 14.25	+ Check tolerance	_
Tolerance mm	: +- 0.05	Check tolerance cm3/1000s.	: +- 6.0
		+ Spreed	
Rated speed rpm	: 750	+ Tolerance	
rack travel mm	: 13.55	+ cm3/1000 strokes	
Rated speed rpm rack travel mm Tolerance mm	: +- 0.10	+ Check tolerance	
		- cm3/100Cs.	: 12.0
Rated speed rpm	: 500	+	
Rated speed rpm rack travel mm Tolerance mm	: 13.60	+	
Tolerance mm	: +- 0.20	+ Aneroid pressure	
		+ hPa	: -
		Rated speed rpm	: 1000
ANEROID/ALTITUDE		† Del. quantity	403.5
COMPENSATOR TEST		+ cm3/1000 strokes	: 183.5
		+ Tolerance	. 4.5
CETTING		+ cm3/1000 strokes	: +- 1.0
SETTING		+ Check tolerance + cm3/109GS.	
Dottod amond non	: 1100	† cm3/1000s.	: +- 5.1
Rated speed rpm Pressure hPa		Ť	
rressure nra	; 900	I	
Rated speed rpm	: 1000	STARTING FUEL DE	TVERY
Pressure hPa	: -	The state of the s	
rack travel mm	12.90	+ Rated speed rpm	: 100
Tolerance mm	: + 0.20	rack travel mm	: 21.00
Pressure hPa rack travel mm Tolerance mm		+ Tolerance mm	: +- 0.50
MEASUREMENT		+ Del. quantity	- · · · ·
		+ cm3/1000 strokes	: 156.0
Rated speed rpm	: 1100	+ Tolerance	· -
, , , , , , ,		+ cm3/1000 strokes	: +- 20.0
Pressure hPa	: 400	+ Check tolerance	
rack travel mm	: 13.80	+ cm3/1000s.	: +- 25.0
Tolerance mm	: +- 0.20	+	
		†	
Pressure hPa	: 300	+	
rack travel mm	: 13.40		
Tolerance mm	: +- 0.20	+ LOW IDLE	
		Dated aread	. 450
Start interlock		Rated speed rpm	÷ 42U
stant intertock		† Rack travel in m	m · 6 40
Dated speed and	: > 100	+ Tolerance mm	
Rated speed rpm Rated speed rpm		+ Del. quantity	• '- 0.20
varen sheen thu	. \ 370	+ cm3/1000 strokes	: 32.0
Check		+ Tolerance	. 56.0
speed 1/min	: > 80	+ cm3/1000 strokes	• + 30
speed 1/mill	. / 00	T Chis/ Tubu Strokes	. +- 3.0

Check tolerance cm3/1000s. : +- 5.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.04.97 Test oil : ISO 4113

Combination No. : 0 403 466 170

Injection pump

Pump designation : PES6MW100/120RS1242

EP type number : 0 413 406 241

Governor

Governer design. : RSV550...1100MW5A386

Governer no. : 0 420 085 271

Cust. part No. : 3929170

Customer-spec. information Customer : CDC Motor : 6 CTA Power KW : 179.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.20 Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 15.00 Difference ° CS : 1.50

	+
BASIC SETTING	<pre>+ governor spring + pre-tension</pre>
	click setting x : 3.50
Rated speed rpm : 1100	<u> </u>
Rack travel in mm: 12.80	FULL LOAD DELIVERY AT FULL LOAD STOP
olerance mm : +- 0.05	Rated speed rpm : 1100
Application and the state of th	+ Aneroid pressure
Del. quantity cm3/1000 strokes : 158.0	hPa : 1200 Del. quantity
	cm3/1000 strokes : 158.0
olerance	† Tolerance
m3/1000 strokes : +- 1.0	+ cm3/1000 strokes : +- 1.0 + Check tolerance
heck tolerance	cm3/1000s. : +- 4.0
m3/1000s. : + 4.0	Spreed
preed	Tolerance cm3/1000 strokes : 4.0
hi cea	+ Check tolerance
olerance	+ cm3/1000s. : 7.5
m3/1000 strokes : 4.0	<u> </u>
heck tolerance	CONTROL LEVED
n3/1000s. : 7.5	CONTROL LEVER
The Property and the Pr	+ control lever
	position degree : 99.0
ated speed rpm : 550	tolerance degree : +- 4.0
ack travel in mm : 5.05	+ RATED SPEED
olerance mm : + 0.10	rack travel mm : 11.80
el. quantity	+ Rated speed rpm : 1170
m3/1000 strokes : 23.0	† Tolerance 1/min : +- 5
olerance n3/1000 strokes : +- 2.0	† rack bravel mm : 8.00
heck tolerance	+ Rated speed rpm : 1205
m3/1000s. : +- 4.5	+ Tolerance 1/min : + 5
preed	1 20
olerance m3/1000 strokes : 3.5	<pre>† rack travel mm : 1.00 ∴ Tolerance mm : ← 0.70</pre>
neck tolerance	+ Rated speed rpm : 1300
n3/1000s. : 5.5	+
	rack travel mm : 8.00
D) CETTAIC OF TALLECTION DIME	Rated speed rpm : 1205
B) SETTING OF INJECTION PUMP ITH GOVERNOR	Tolerance 1/min : +- 15
III GOVERNOR	1
	+
INDER OF PRINCIPAL PRODUCTION	100 7015
UIDE SLEEVE POSITION	+ LOW IDLE
	1
ontrol lever	- control lever
osition degree : - 3	position degree : 75.0
ated speed rpm : 800	tolerance degree : +- 4.0
ack travel in mm: 0.50	Control lever difference
olerance mm : +- 0.20	+ Grad : 24.0

tolerance degree : +- 6.0	+
Setting point w/out bumper spring	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 550 rack travel mm : 4.55 Tolerance mm : +- 0.10	Aneroid pressure hPa : 1200
Rated speed rpm : 100	Rated speed rpm : 750 Del. quantity
CRT mm min. : > 19.00	+ cm3/1000 strokes : 177.5 + Tolerance
Testing:	- cm3/1000 strokes : +- 2.0 - Check tolerance
Rated speed rpm : 550 rack travel mm : 5.05	- cm3/1000s. : +- 5.0 - Spreed - Tolerance
rack travel mm : 5.05 Tolerance mm : + 0.10	cm3/1000 strokes : 6.0 Check tolerance
TORQUE CONTROL Rated speed rpm : 1100	+ cm3/1000s. : 9.0
rack travel mm : 12.80 Tolerance mm : +- 0.05	Aneroid pressure hPa : - Rated speed rpm : 500
Rated speed rpm : 750 rack travel mm : 13.50 Tolerance mm : + 0.10	Del. quantity - cm3/1000 strokes : 119.5 - Tolerance
Rated speed rpm : 1000	cm3/1000 strokes : + 1.0 Check tolerance
rack travel mm : 13.50 Tolerance mm : + 0.20	cm3/1000s. : +- 3.0
ANEROID/ALTITUDE COMPENSATOR TEST	STARTING FUEL DELIVERY
SETTING	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 1.00
Rated speed rpm : 500 Pressure hPa : 1200	+ Del. quantity + cm3/1000 strokes : 140.0 + Tolerance
Rated speed rpm : 500	cm3/1000 strokes : +- 10.0 Check tolerance
Pressure hPa : - rack travel mm : 10.80	cm3/1000s. : + 13.0
Tolerance mm : +- 0.20 MEASUREMENT	<u></u>
Rated speed rpm : 500	LOW IDLE
Pressure hPa : 900	Rated speed rpm : 550
rack travel mm : 13.15 Tolerance mm : + 0.20	+ Rack travel in mm : 5.05 + Tolerance mm : +- 0.10 + Del. quantity
Pressure hPa : 560 rack travel mm : 11.50	- cm3/1000 strokes : 23.0 - Tolerance
Tolerance mm : +- 0.20	- cm3/1000 strokes : +- 2.0 - Check tolerance
	+ cm3/1000s. : +- 4.5

Sp	reed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s.

5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 28.04.97

Test oil : ISO 4113

Combination No. : 0 403 466 171

Injection pump

Pump designation : PES6MW100/120RS1242

EP type number : 0 413 406 241

Governor

Governer design. : RSV550...1100MW5A387

Governer no. : 0 420 085 272

Cust. part No. : 3930453

Customer-spec. information Customer : CDC Motor : 6 CTA

Power KW

: 179.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.20 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

: 15.00 travel

Difference ° CS : 1.50

+	
BASIC SETTING	governor spring pre-tension
Rated speed rpm : 1100	click setting x : 4.00
Rack travel in mm: 12.80	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.05	Rated speed rpm : 1100 Aneroid pressure
Del. quantity cm3/1000 strokes : 158.0	hPa : 1200 Del. quantity cm3/1000 strokes : 158.0
Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : + 4.0	Check tolerance cm3/1000s. : +- 4.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 4.0 Check tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	CONTROL LEVER
	control lever position degree : 104.0
Rated speed rpm : 550	tolerance degree : +- 4.0
Rack travel in mm: 5.05 Tolerance mm: + 0.10 Del. quantity	RATED SPEED rack travel mm : 11.80 Rated speed rpm : 1195
cm3/1000 strokes : 23.0 + Tolerance + Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : + 2.0 + Check tolerance cm3/1000s. : + 4.5	rack travel mm : 8.00 Rated speed rpm : 1235
Spreed	Tolerance 1/min : +- 5
Tolerance + 3.5 Check tolerance + 5.5	rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1350
cm3/1000s. : 5.5	rack travel mm : 8.00 Rated speed rpm : 1235
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : -3 Rated speed rpm : 800	control lever position degree : 79.0 tolerance degree : +- 4.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Control lever difference Grad : 25.0

tolerance degree : +- 4.0	+
Setting point w/out bumper spring	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 550 rack travel mm : 4.55 Tolerance mm : +- 0.10	Aneroid pressure hPa : 1200 Rated speed rpm : 750
Rated speed rpm : 100	+ Del. quantity + cm3/1000 strokes : 177.5
CRT mm min. : > 19.00	+ Tolerance + cm3/1000 strokes : +- 2.0
Testing:	+ Check tolerance + cm3/1000s. : +- 5.0
Rated speed rpm : 550 rack travel mm : 5.05 Tolerance mm : +- 0.10	Spreed Tolerance cm3/1000 strokes: 6.0 Check tolerance
TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 12.80 Tolerance mm : +- 0.05	cm3/1000s. : 9.0 Aneroid pressure hPa : -
Rated speed rpm : 750 rack travel mm : 13.50 Tolerance mm : + 0.10	Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 119.5 Tolerance
Rated speed rpm : 1000 rack travel mm : 13.50 Tolerance mm : +- 0.20	+ cm3/1000 strokes : + 1.0 + check tolerance - cm3/1000s. : + 3.0
ANEROID/ALTITUDE COMPENSATOR TEST	STARTING FUEL DELIVERY Rated speed rpm : 100
SETTING	rack travel mm : 20.50 Tolerance mm : +- 1.00 Del. quantity
Rated speed rpm : 500 Pressure hPa : 1200	cm3/1000 strokes : 140.0 + Tolerance - cm3/1000 strokes : +- 10.0
Rated speed rpm : 500 Pressure hPa : - rack travel mm : 10.80 Tolerance mm : + 0.20	Check tolerance cm3/1000s. : +- 13.0
MEASUREMENT	LOW IDLE
Rated speed rpm : 500	Rated speed rpm : 550
Pressure hPa : 900 rack travel mm : 13.15 Tolerance mm : +- 0.20	Rack travel in mm: 5.05 Tolerance mm: +- 0.10 Del. quantity
Pressure hPa : 560 rack travel mm : 11.50 Tolerance mm : +- 0.20	+ cm3/1000 strokes : 23.0 + Tolerance + cm3/1000 strokes : +- 2.0
	+ Check tolerance + cm3/1000s. : +- 4.5

Spreed

Tolerance cm3/1000 strokes : 3.5 Check tolerance

cm3/1000s.

: 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 28.04.97 Test oil

Combination No. : 0 403 466 177

Injection pump

Pump designation : PES6MW100/120RS1242

EP type number : 0 413 406 241

Governor

Governer design. : RSV550...1100MW5A397

Governer no. : 0 420 085 286

Cust, part No. : 3931283

Customer-spec. information

Customer : CDC

Motor

: 6 CTA

Power KW

: 180.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 2 417 413 093

2.0

Inlet press. bar :

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Tolerance bar : +- 1.0

Prestroke mm : 3.20 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50

: +- 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 15.00 Difference ° CS : 1.50

E23

	†
BASIC SETTING	<pre>governor spring pre-tension</pre>
	click setting x : 3.25
Rated speed rpm : 1100	
Rack travel in mm: 12.80	FULL LOAD DELIVERY AT FULL LOAD STOP
Folerance mm : +- 0.05	Rated speed rpm : 1100
Del. quantity	+ Aneroid pressure + hPa : 1200
m3/1000 strokes : 158.0	+ Del. quantity
olerance	+ cm3/1000 strokes : 158.0 + Tolerance
m3/1000 strokes : + 1.0	cm3/1000 strokes : +- 1.0
had belone	Check tolerance
heck tolerance m3/1000s. : +- 4.0	+ cm3/1000s. : +- 4.0 + Spreed
	+ Tolerance
preed	+ cm3/1000 strokes : 4.0 + Check tolerance
Tolerance	cm3/1000s. : 7.5
cm3/1000 strokes : 4.0	‡
Check tolerance : 7.5	CONTROL LEVER
ms/:000s, : /.5	+ CONTROL LEVER
	control lever
ated speed rpm : 550	<pre>position degree : 100.0 tolerance degree : + 4.0</pre>
	+
ock travel in mm : 5.05 blerance mm : +- 0.10	+ RATED SPEED
olerance mm : +- 0.10 el. quantity	+ rack travel mm : 11.80 + Rated speed rpm : 1180
m3/1000 strokes : 23.0	+ Tolerance 1/min : +- 5
olerance	+
m3/1000 strokes : + 2.0	rack travel mm : 6.00
Check tolerance : +- 4.5	+ Rated speed rpm : 1235 + Tolerance 1/min : + 5
Spreed	Total and mining
olerance	rack travel mm : 1.00
m3/1000 strokes : 3.5	+ Tolerance mm : + 0.70
heck tolerance m3/1000s. : 5.5	Rated speed rpm : 1300
	+ rack travel mm : 6.00
	Rated speed rpm : 1235
B) SETTING OF INJECTION PUMP	+ Tolerance 1/min : + 15
VITH GOVERNOR	İ
	+
UIDE SLEEVE POSITION	+ LOW IDLE
	†
control lever	+ control lever
position degree : -3	position degree : 77.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm : 0.50 Folerance mm : +- 0.20	Control lever difference
	+ Grad : 23.0

tolerance degree : +- 4.0 Del. quantity cm3/1000 strokes : 119.0 Setting point w/out bumper spring Tolerance cm3/1000 strokes : +- 1.0550 Check tolerance Rated speed rpm : rack travel mm 4.55 : +- 3.0 cm3/1000s. Tolerance mm : +- 0.10 Rated speed rpm : 100 STARTING FUEL DELIVERY CRT mm min. :> 19.00 Rated speed rpm : rack travel mm : Testing: 20.50 Tolerance mm : +- 1.00 Rated speed rpm : 550 Del. quantity rack travel mm : 5.05 cm3/1000 strokes : 140.0 : +- 0.10 Tolerance mm Tolerance cm3/1000 strokes : + 10.0Check tolerance TORQUE CONTROL cm3/1000s. : + 13.0 Rated speed rpm : 1100 rack travel mm : 12.80 Tolerance mm : +- 0.05 LOW IDLE ANEROID/ALTITUDE COMPENSATOR TEST Rated speed rpm : 550 Rack travel in mm : 5.05 SETTING Tolerance mm : + 0.10 Del. quantity Rated speed rpm : 500 cm3/1000 strokes : 23.0 Pressure hPa : 1200 Tolerance cm3/1000 strokes : +- 2.0Rated speed rpm : 500 Check tolerance Pressure hPa cm3/1000s. : +- 4.5 rack travel mm : 10.80 Spreed : +- 0.20 Tolerance Tolerance mm cm3/1000 strokes : 3.5 **MEASUREMENT** Check tolerance 5.5 cm3/1000s. 5<u>0</u>0 Rated speed rpm : Pressure hPa 830 rack travel mm 12.60 : +- 0.20 Tolerance mm End of test specification sheet : 560 Pressure hPa : 11.50 rack travel mm : +- 0.20 Tolerance mm FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

Rated speed rpm :

500

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 07,04,97 : ISO 4113

Combination No. : F 002 AOZ 026

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1250AOC904R

Governer no.

: F 002 A20 220

Cust. part No. : 3930148

Customer-spec. information Customer : CDC : 4BT3.9 Motor Power KW : 63.0

TEST BENCH REQUIREMENTS

: 3.2 Inlet line

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 093

Inlet press. bar : 2.0 Tolerance bar : +-0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0 x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 2,45 : + - 0.05Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-3-4-2 Firing order

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 8.50 Tolerance : + 0.50

Check

: +- 0.75 tolerance °NW

Barrel no. : 1

BASIC SETTING

1250 Rated speed rpm :

Rack travel in mm : 10.35 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 85.0

Tolerance	Talamana
	Tolerance
$cm3/1000$ strokes : \leftarrow 1.0	cm3/1000 st_kes : +- 1.0
1	Check tolerance
Check tolerance +	cm3/1000s. : +- 3.0
2m3/1000s, ; +- 3.0	Spreed
- LINE / 100001	
<u> </u>	Tolerance
Spreed	cm3/1000 strokes : 3.5
cpi ccu	
†	Check tolerance
Tolerance +	cm3/1000s. : 6.0
cm3/1000 strokes : 3.5 +	
+	
Check tolerance	
cm3/1000s. : 6.0 +	CONTROL LEVER
1	
<i>†</i>	control lever
+	position degree : 112.0
Poted encod non	
Rated speed rpm : 475	tolerance degree : +- 4.0
+	
Rack travel in mm: 5.50	RATED SPEED
Tolerance mm : + 0.10 +	rack travel mm : 9.30
Del. quantity	Rated speed rpm : 1305
cm3/1000 strokes : 20.5	Tolerance 1/min : + 10
Tolerance +	
cm3/1000 strokes : + 2.0	rack travel mm : 6.30
Check tolerance +	Rated speed rpm : 1355
cm3/10003. : +- 4.5	Tolerance 1/min : + 5
	Total diffe Thirth . The S
Spreed +	
Tolerance +	rack travel mm : 0.85
cm3/1000 strokes : 3.5 +	Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1475
	1415
cm3/1000s. : 5.5 +	
	rack travel mm : 6.30
+	
<u>†</u>	
+	Rated speed rpm : 1355
(B) SETTING OF INJECTION PUMP	
	Rated speed rpm : 1355
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1355
	Rated speed rpm : 1355
	Rated speed rpm : 1355
	Rated speed rpm : 1355
WITH GOVERNOR	Rated speed rpm : 1355 Tolerance 1/min : + 15
	Rated speed rpm : 1355
WITH GOVERNOR	Rated speed rpm : 1355 Tolerance 1/min : + 15
WITH GOVERNOR	Rated speed rpm : 1355 Tolerance 1/min : + 15
WITH GOVERNOR	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE
GUIDE SLEEVE POSITION	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE
GUIDE SLEEVE POSITION coritrol lever	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever
GUIDE SLEEVE POSITION corrtrol lever position degree : - 3	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0
GUIDE SLEEVE POSITION coritrol lever	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0
GUIDE SLEEVE POSITION corrtrol lever position degree : - 3	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION corrtrol lever position degree : - 3	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.50	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.00
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.50	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.00
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.00 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.00
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.00 Tolerance mm : + 0.10 Rated speed rpm : 100
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.00 Tolerance mm : + 0.10 Rated speed rpm : 100
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : -	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.00 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : -	Rated speed rpm : 1355 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 90.0 tolerance degree : + 4.0 Control lever difference Grad : 22.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.00 Tolerance mm : + 0.10 Rated speed rpm : 100

Rated speed rpm 475 rack travel mm : 5.50 : + 0.10Tolerance mm TORQUE CONTROL Rated speed rpm : 1250 rack travel mm : 10.35 Tolerance mm : +- 0.05 Rated speed rpm : rack travel mm : 750 11.00 Tolerance mm : + 0.10 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 750 Rated speed rpm : Del. quantity cm3/1000 strokes : 88.5 Tolerance cm3/1000 strokes : +-Check tolerance cm3/1000s. : +-4.0 STARTING FUEL DELIVERY 100 Rated speed rpm : rack travel mm : 20.50 : + 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 121.0 Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 475 5.50 Rack travel in mm: Tolerance mm : + 0.10Del. quantity cm3/1000 strokes : 20.5

Spreed
Tolerance
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000s. : 5.5

End of test specification sheet

Tolerance

cm3/1000s.

Check tolerance

cm3/1000 strokes : +-

2.0

: +- 4.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.05.97 Test oil : ISO 4113

Combination No. : 0 401 430 015

Injection pump

Pump designation : PE12R120/520/6RS1510

EP type number : 0 411 420 002

Governor

Governer design. : RQV300...1150R7K

Governer no. : 0 421 415 007

Cust. part No. : 1 227 6584

Customer—spec. information
Customer • MWM

Customer : MWM
Motor : TBD 616

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.0
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

DEMADUS

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.95 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00 Tolerance mm : + 0.50

Firing order : 1-2-9-10-5-6

: - 11- 12- 3- 4

: - 7- 8

Phasing : 0-30-60-90-120-150

: -180-210-240-270

: -300-330

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 14.40
Tolerance mm: + 0.05

Del. quantity cm3/1000 strokes : 387.0	Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes : + 1.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : +- 4.0	control lever position degree : - 1 Rated speed rpm : 1330
Spreed	+
Tolerance cm3/1000 strokes : 8.0	Rack travel in mm: 9.00 Tolerance mm: +- 1.50
Check tolerance cm3/1000s. : 12.0	FULL LOAD DELIVERY AT FULL LOAD STOP
	Rated speed rpm : 1150 Aneroid pressure hPa : 1500
Rated speed rpm : 300	Del. quantity cm3/1000 strokes : 387.0
Rack travel in mm : 4.80 Tolerance mm : + 0.10 Del. quantity	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : 30.0 Tolerance	+ cm3/1000s. : +- 4.0 + Spreed
cm3/1000 strokes : +- 3.0 Check tolerance	Tolerance cm3/1000 strokes : 8.0
cm3/1000S. : +- 6.0 Spreed Tolerance	+ Check tolerance + cm3/1000s. : 12.0
cm3/1000 strokes : 10.0 Check tolerance	
cm3/1000s. : 14.0	CONTROL LEVER
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 121.0 tolerance degree : + 4.0
CURNE OF FEMALES	RATED SPEED
GUIDE SLEEVE TRAVEL	+ rack travel mm : 13.40 + Rated speed rpm : 1195
Rated speed rpm : 1215 guide sleeve	+ Tolerance 1/min : + 5
travel mm : 9.95 Tolerance mm : + 0.15	rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : +- 15
Rated speed rpm : 300 guide sleeve	rack travel mm : 0.50
travel mm : 0.93	Tolerance mm : + 0.50
Tolerance mm : + 0.20 Rated speed rpm : 790	Rated speed rpm : 1400
Rated speed rpm : 790 guide sleeve	Ţ
travel mm : 4.81	101 7015
Tolerance mm : +- 0.25	LOW IDLE
Rated speed rpm : 1430 guide sleeve	control lever
travel mm : 13.50	position degree : 71.0

tolerance degree : +- 4.0 Setting point w/out bumper spring Start interlock Rated speed rpm 200 • Rated speed rpm 100 : > Rated speed rpm 250 : < CRT mm min. 6.30 : > Check speed 1/min Testing: : > 80 Check Rated speed rpm 300 speed 1/min 270 . ; < 4.80 rack travel mm : +- 0.10 Tolerance mm FUEL DELIVERY CHARACTERISTICS 370 Rated speed rpm : Aneroid pressure TORQUE CONTROL hPa 1500 Rated speed rpm : 1150 Rated speed rpm : 750 rack travel mm 14.40 Del. quantity : +- 0.05 cm3/1000 strokes : 317.0 Tolerance mm Tolerance 750 Rated speed rpm cm3/1000 strokes : +-3.0 rack travel mm 11.90 Check tolerance : + - 0.20Tolerance mm cm3/1000s. 6.0 Spreed Rated speed rpm 400 Tolerance rack travel mm 10.30 cm3/1000 strokes : 10.0 Tolerance mm : +- 0.30 Check tolerance cm3/1000s. 14.0 ANEROID/ALTITUDE COMPENSATOR TEST Aneroid pressure Rated speed rpm 500 SETTING Del. quantity cm3/1000 strokes : 200.0 Rated speed rpm 1150 Tolerance Pressure hPa 1500 cm3/1000 strokes : +-1.0 rack travel mm 14.40 Check tolerance : +- 0.05 cm3/1000s. Tolerance mm 4.0 Spreed : 1150 Rated speed rpm Tolerance Pressure hPa 10.0 cm3/1000 strokes : 7.90 rack travel mm Check tolerance 14.0 : +- 0.20 cm3/1000s. Tolerance mm MEASUREMENT : 1150 Rated speed rpm STARTING FUEL DELIVERY Pressure hPa 900 Rated speed rpm : 100 : rack travel mm 13.60 : +- 0.20 Tolerance mm 310 Pressure hPa : 9.00 LOW IDLE rack travel mm : **←** 0.05 Tolerance mm

Rated speed rpm :

300

Rack travel in mm	:		4.80
Tolerance mm Del. quantity	:	+	0.10
cm3/1000 strokes	:		30.0
Tolerance			- 0
cm3/1000 strokes	;	+	3.0
Check tolerance			
cm3/1000s.	;	+-	6.0
Spreed			
Tolerance			
cm3/1000 strokes	;		10.0
Check tolerance			
cm3/1000s.	:		14.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 07.05.97

Test oil

: ISO 4113

Combination No. : 0 402 076 795

Injection pump

Pump designation : PES6P12DA72ORS3369

EP type number : 0 412 026 789

Governor

Governer design. : RSV450...1075P5A631

Governer no. : 0 421 833 538

Cust. part No. :

Customer-spec. information

Customer

: IVECO-FIAT

Motor

: 8365.26.584

Power KW

: 144.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm

3.55

Tolerance mm

: +- 0.05

Check

tolerance mm

: +- 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order

: 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: + 0.50

Check

tolerance °NW

: +- 0.75

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm: 10.75

Tolerance mm

: +- 0.05

Del. quantity

cm3/1000 strokes: 136.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 4.0

Spreed

Tolerance cm3/1000 strokes : 5.0	Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	
 ‡	CONTROL LEVER
Rated speed rpm : 450	<pre>control lever position degree : 114.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 5.90 + Tolerance mm: + 0.10 + Del. quantity	RATED SPEED rack travel mm : 9.60
cm3/1000 strokes : 25.0	Rated speed rpm : 1150 Tolerance 1/min : +- 5
cm3/1000 strokes : +- 3.0 +- Check tolerance	Check
cm3/1000s. : + 6.0 +	
Spreed +	rack travel mm : 4.00 Rated speed rpm : 1195
cm3/1000 strokes : 8.0 + Check tolerance	Tolerance 1/min : +- 15
cm3/1000s. : 12.0	rack travel mm : 0.85 Tolerance mm : +- 0.55
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1400
WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1235 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	Check speed 1/min : +- 20
control lever position degree : -3 Rated speed rpm : 800	LOW IDLE
Rack travel in mm: 0.50	
Tolerance mm : + 0.20	control lever position degree : 88.0
governor spring	tolerance degree : +- 4.0
pre-tension click setting x : 5.50	Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 450 rack travel mm : 5.40 Tolerance mm : +- 0.10
Rated speed rpm : 1075	
Aneroid pressure hPa : 900	Testing:
Del. quantity cm3/1000 strokes : 136.0	Rated speed rpm : 450 rack travel mm : 5.90
Tolerance + 1.0 +	Tolerance mm : + 0.10
Check tolerance cm3/1000s. : +- 4.0	rack travel mm : 2.00 Rated speed rpm : 650
Spreed Tolerance	Tolerance 1/min : +- 50
cm3/1000 strokes : 5.0	TORQUE CONTROL

Rated speed rpm rack travel mm Tolerance mm	: 1075 : 10.75 : +- 0.05	+ + + +	Check tolerance cm3/1000s.	: +- 4.0
Rated speed rpm rack travel mm Tolerance mm	: 700 : 10.80 : + 0.10	†	STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm	: 320 : 11.30 : +- 0.20	+ + + +	Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 100 : 9.60 : +- 0.30 : 95.0
ANEROID/ALTITUDE COMPENSATOR TEST		+ + + +	Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 15.0 : +- 19.0
SETTING		<u>†</u>		
Rated speed rpm Pressure hPa rack travel mm	: 500 : 900 : 10.75	† †	LOW IPLE	
Tolerance mm	: +- 0.10	Ì	Rated speed rpm	: 450
Rated speed rpm Pressure hPa rack travel mm	: 500 : - : 9.60	+	Rack travel in mm Tolerance mm Del. quantity	: 5.90 : +- 0.10
Tolerance mm	: +- 0.20	1	cm3/1000 strokes Tolerance	: 25.0
MEASUREMENT		<u> </u>	cm3/1000 strokes Check tolerance	: +- 3.0
Rated speed rpm	: 500	+	cm3/1000s. Spreed	: +- 5.0
Pressure hPa rack travel mm Tolerance mm	: 515 : 10.35 : + 0.05	+++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0
FUEL DELIVERY CHA	RACTERISTICS	+ + +		
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance		+++++++++++++++++++++++++++++++++++++++	End of test speci	fication sheet
cm3/1000 strokes Check tolerance	: +- 3.0	‡		
cm3/1000s.	: +- 6.0	‡		
Aneroid pressure hPa	: -	+		
Rated speed rpm Del. quantity	: 500	‡		
cm3/1000 strokes Tolerance		‡		
cm3/1000 strokes	: +- 1.0	+		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.05.97 Test oil : ISO 4113

Combination No. : 0 402 076 797

Injection pump

Pump designation : PES6P12DA72DRS3378 EP type number : 0 412 026 799

Governor

Governer design. : RSV450...1000P5A637

Governer no. : 0 421 833 548

Cust. part No. :

Customer—spec. information Customer : IVECO-FIAT Motor : 8365.26.541

Power KW : 129.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Overflow quantity

min. l/h : 240 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 9.00

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 125.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0	+ Check tolerance + cm3/1000s. : +- 4.0 + Spreed + Tolerance
Spreed	cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000s. : 9.0
Check tolerance cm3/1000S. 9.0	CONTROL LEVER
Rated speed rpm : 450	control lever position degree : 117.0 tolerance degree : +- 4.0
Rack travel in mm: 4.20 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 20.0 Tolerance cm3/1000 strokes: + 3.0 Check tolerance	RATED SPEED rack travel mm : 8.00 Rated speed rpm : 1070 Tolerance 1/min : + 5 Check speed 1/min : +- 10
cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	rack travel mm : 4.00 Rated speed rpm : 1115 Tolerance 1/min : + 15 Check speed 1/min : + 20 rack travel mm : 0.85
(E) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance mm : +- 0.55 Rated speed rpm : 1400 rack travel mm : 4.00 Rated speed rpm : 1125
GUIDE SLEEVE POSITION	Tolerance 1/min : +- 15 Check speed 1/min : +- 20
control lever position degree : - 3 Rated speed rpm : 800	LOUI TOUS
Rack travel in mm : 0.50 Tolerance mm : + 0.20	LOW IDLE control lever
governor spring pre-tension click setting x : 5.00	position degree : 93.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 450 rack travel mm : 3.70
Rated speed rpm : 1000 Aneroid pressure hPa : -	Tolerance mm : + 0.10 Testing:
Del. quantity cm3/1000 strokes : 125.0 Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 450 rack travel mm : 4.20 Tolerance mm : +- 0.10

rack travel mm Rated speed rpm Tolerance 1/min	:	+	2.00 560 50

TORQUE CONTROL		
Rated speed rpm	;	1000
rack travel mm	:	9.00
Tolerance mm		<u>-</u> 0.05

Rated speed rpm : 500 rack travel mm : 9.05 Tolerance mm : +- 0.10

Rated speed rpm : 330 rack travel mm : 9.60 Tolerance mm : + 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 96.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 450

Rack travel in mm: 4.20
Tolerance mm: +- 0.10
Del. quantity

20.0

cm3/1000 strokes : Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.05.97 Test oil : ISO 4113

Combination No. : 0 402 076 798

Injection pump

Pump designation : PES6P120A720RS3371

EP type number : 0 412 026 791

Governor

Governer design. : RSV450...1000P5A637

: -1

Governer no. : 0 421 833 549

Cust. part No. :

Customer-spec. information
Customer : IVECO-FIAT

Motor : 8365.26.540

Power KW : 136.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : + 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Overflow quantity

min. l/h : 230 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.55
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 9.55

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 128.0

Tolerance

cm3/1000 strokes : +- 1.0

.

Check tolerance cm3/1000s. : +- 4.0	+ Check tolerance + cm3/1000s. : +- 4.0 + Spreed
Spreed	+ Tolerance
Tolerance	+ cm3/1000 strokes : 5.0 + Check tolerance
cm3/1000 strokes : 5.0	+ cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	
	CONTROL LEVER
750	control lever
Rated speed rpm : 450	<pre>position degree : 114.0 tolerance degree : + 4.0</pre>
Rack travel in mm : 4.60 Tolerance mm : +- 0.10	+ RATED SPEED
Del. quantity	+ rack travel mm : 8.50
cm3/1000 strokes : 20.0	Rated speed rpm : 1070
Tolerance	+ Tolerance 1/min : +- 5
cm3/1000 strokes : +- 3.0	+ Check
Check tolerance cm3/1000s. : +- 6.0	+ speed 1/min : +- 10
Spreed	Track travel mm : 4.00
Tolerance	+ Rated speed rpm : 1110
cm3/1000 strokes : 8.0 Check tolerance	Tolerance 1/min : +- 15
cm3/1000s. : 12.0	rack travel mm : 0.85
	+ Tolerance mm : +- 0.55
(T) OF THE OF THE OTHER	+ Rated speed rpm : 1400
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00
MILL GOVEKNOK	Rated speed rpm : 1120
	+ Tolerance 1/min : +- 15
	Tolerance 1/min : +- 15 + Check
GUIDE SLEEVE POSITION	+ Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	Tolerance 1/min : +- 15 + Check
	Tolerance 1/min : +- 15 + Check
control lever	Tolerance 1/min : +- 15 + Check
	Tolerance 1/min : +- 15 + Check
control lever position degree : - 3 Rated speed rpm : 800	Tolerance 1/min : +- 15 Check speed 1/min : +- 20
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50	Tolerance 1/min : +- 15 Check speed 1/min : +- 20 LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800	Tolerance 1/min : +- 15 Check speed 1/min : +- 20 LOW IDLE control lever
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	Tolerance 1/min : +- 15 Check speed 1/min : +- 20 LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	Tolerance 1/min : +- 15 Check speed 1/min : +- 20 LOW IDLE control lever position degree : 88.0 tolerance degree : +- 4.0
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	Tolerance 1/min : +- 15 Check speed 1/min : +- 20 LOW IDLE control lever position degree : 88.0
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	Tolerance 1/min : +- 15 Check speed 1/min : +- 20 LOW IDLE control lever position degree : 88.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50	Tolerance 1/min : +- 15 Check speed 1/min : +- 20 LOW IDLE control lever position degree : 88.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	Tolerance 1/min : +- 15 Check speed 1/min : +- 20 LOW IDLE control lever position degree : 88.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000	Tolerance 1/min : + 15 Check speed 1/min : + 20 LOW IDLE control lever position degree : 88.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 4.10 Tolerance mm : + 0.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure	Tolerance 1/min : +- 15 Check speed 1/min : +- 20 LOW IDLE control lever position degree : 88.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 4.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200	Tolerance 1/min : +- 15 Check speed 1/min : +- 20 LOW IDLE control lever position degree : 88.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 4.10 Tolerance mm : +- 0.10 Testing:
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity	Tolerance 1/min : + 15 Check speed 1/min : + 20 LOW IDLE control lever position degree : 88.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 4.10 Tolerance mm : + 0.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.0 Tolerance	Tolerance 1/min : + 15 Check speed 1/min : + 20 LOW IDLE control lever position degree : 88.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 4.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 450 Rated speed rpm : 450
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.0	Tolerance 1/min : + 15 Check speed 1/min : + 20 LOW IDLE control lever position degree : 88.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 4.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 450 rack travel mm : 4.60

Rated speed rpm Tolerance 1/min TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: +- 50	Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 88.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Rated speed rpm rack travel mm Tolerance mm	: 700 : 9.60 : +- 0.10	STARTING FUEL DELIVERY Rated speed rpm : 100
Rated speed rpm rack travel mm Tolerance mm		rack travel mm : 9.10 + Tolerance mm : +- 0.30 + Del. quantity + cm3/1000 strokes : 90.0 - Tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes : +- 15.0 Check tolerance cm3/1000s. : +- 19.0
SETTING		†
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 9.55 : +- 0.10	LOW IDLE Rated speed rpm : 450
Rated speed rpm Pressure hPa rack travel mm Tolerance mm		Rack travel in mm: 4.60 Tolerance mm: +- 0.10 Del. quantity cm3/1000 strokes: 20.0
MEASUREMENT	: 500	+ Tolerance + cm3/1000 strokes : +- 3.0 + Check tolerance + cm3/1000s. : +- 5.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 425 : 9.35 : +- 0.05	- cm3/1000s. : +- 6.0 - Spreed - Tolerance - cm3/1000 strokes : 8.0 - Check tolerance - cm3/1000s. : 12.0
FUEL DELIVERY CHA	NRACTERISTICS	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		End of test specification sheet
Aneroid pressure hPa	: -	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 07.05.97

Test oil

: ISO 4113

Combination No. : 0 402 076 807

Injection pump

Pump designation : PES6P12OA72ORS3378

EP type number : 0 412 026 799

Governor

Governer design. : RSV450...1050P5A647

Governer r.o. : 0 421 833 564

Cust. part No. :

Customer-spec. information

Customer : IVECO-FIAT

Motor

: 8365.26.532

Power KW

: 117.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 2 417 413 034

Inlet press. bar :

2.5

Overflow quantity

min. L/h

260

Tolerance l/h: +- 20.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter:

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar :

Tolerance bar : + 1.0

Prestroke mm : 3.55

Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 8.55

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 115.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. :	+- 4.0	Check tolerance cm3/1000s. Spreed	: +- 4.0
Spreed		Tolerance	
Tolerance cm3/1000 strokes :	5.0	cm3/1000 strokes Check tolerance cm3/1000s.	5.09.0
Check tolerance cm3/1000s. :	9.0	CONTROL LEVER	
	I		
Rated speed rpm :	450	control lever position degree	: 113.0
Rack travel in mm : Tolerance mm : Del. quantity		RATED SPEED rack travel mm Rated speed rpm	: 7.40 : 1095
cm3/1000 strokes : Tolerance	20.0	Tolerance 1/min Check	: +- 5
cm3/1000 strokes : Check tolerance	÷ 3.0	speed 1/min	: +- 10
	+- 6.0	rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1125 : +- 15
cm3/1000 strokes : Check tolerance	8.0	rack travel mm	: 0.85
cm3/1000s.	12.0	Tolerance mm Rated speed rpm	: +- 0.55
(B) SETTING OF INJECTION OF INJ	CTION PUMP	rack travel mm Rated spaed rpm Tolerance 1/min Check speed 1/min	: 4.00 : 1130 : +- 15 : +- 20
GUIDE SLEEVE POSITIO	ON +	Speed //iiiii	
	- 3 800	LOW IDLE	
Rack travel in mm : Tolerance mm :		control lever position degree	: 91.0
governor spring pre-tension	1	Setting point w/ou	ıt bumper spring
click setting x :	2.50	Rated speed rpm rack travel mm Tolerance mm	: 450 : 4.10 : +- 0.10
FULL LOAD DELIVERY	AT FULL LOAD STOP	Testing:	2010
Rated speed rpm : Aneroid pressure hPa :	1050	Rated speed rpm rack travel mm	: 450 : 4.60
Del. quantity cm3/1000 strokes :	115.0	Tolerance mm	: + 0.10
Tolerance cm3/1000 strokes :	+ 1.0	rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 570 : +- 50

TORQUE CONTROL 1050 Rated speed rpm rack travel mm 8,55 Tolerance mm : + - 0.05700 Rated speed rpm 8.60 rack travel mm : +- 0.10 Tolerance mm Rated speed rpm 320 rack travel mm 9.10 Tolerance mm : +- 0.20 450 Rated speed rpm rack travel mm 8.60 : +- 0.20 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 700 Rated speed rpm Del. quantity cm3/1000 strokes : 106.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +- 6.0 STARTING FUEL DELIVERY Rated speed rpm 100 9.50 rack travel mm : +- 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 110.0 Tolerance cm3/1000 strokes : +- 15.0Check tolerance cm3/1000s. : +- 19.0 LOW IDLE Rated speed rpm : 450 Rack travel in mm: 4.60 Tolerance mm : +-0.10

Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

End of test specification sheet

Del. quantity

cm3/1000 strokes :

20.0

Test lines : 1 680 750 089 BOSCH INJ. PUMP TEST SPECIFICATIONS Outside diameter : 8.0 Note remarks Refer to Service Info for test and x inside diameter : 3.0 adjustment instructions. x length mm : 600 See microcard(s) W400/... Edition : 07.05.97 Test oil : ISO 4113 REMARKS Combination No. : 0 402 076 808 Injection bumb Pump designation : PES6P120A720RS3371 EP type number : 0 412 026 791 (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. Governor per values ____ Governer design. : RSV450...1050P5A649 Governer no. : U 421 833 566 BEGINNING OF DELIVERY Cust. part No. : Test pressure bar : Tolerance bar : +- 1.0 Customer-spec. information Custome: : IVECO-FIAT
Motor : 8365.26.534
Power KW : 130.0 Prestroke mm : 3.55
Tolerance mm : +- 0.05 Check : +- 0.10 tolerance mm Rack travel in mm : 10.50 TEST BENCH REQUIREMENTS Tolerance mm : +- 1.50Inlet line : 4.2 Firing order : 1-5-3-6-2-: 4 Test oil inlet temp. °C 40 Tolerance °C Phasing 2.0 : 0-60-120-180-240 : -300 Tolerance : +- 0.50 Overflow valve : 2 417 413 034 Check tolerance °NW : +- 0.75 Inlet press. bar : 2.5 Overflow quantity BASIC SETTING min. l/h : 260 Tolerance l/h : +- 20.0 Rated speed rpm : 1000 Rack travel in mm: 9.25 Test nozzle holde : 1 688 901 105 assembly Tolerance mm : +- 0.05

Del. quantity

Tolerance

cm3/1000 strokes : 126.0

cm3/1000 strokes : +- 1.0

bar

Opening pressure

Tolerance bar : +- 1.5

: 208.5

Check tolerance cm3/1000s. : +- 4.0	+ Check tolerance + cm3/1000s. : + 4.0 + Spreed
Spreed	Tolerance : 5.0 Check tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000s. : 9.0
Check tolerance cm3/1000s. 9.0	CONTROL LEVER
Rated speed rpm : 450	control lever position degree : 115.0
Natura opeca i pili	RATED SPEED
Rack travel in mm: 4.50 Tolerance mm: + 0.10 Del. quantity	rack travel mm : 8.20 Rated speed rpm : 1075 Tolerance 1/min : +- 5
cm3/1000 strokes : 20.0	- Check
Tolerance cm3/1000 strokes : + 3.0	speed 1/min : +- 10
Check tolerance	+ rack travel mm : 4.00
cm3/1000s. : +- 6.0	Rated speed rpm : 1110
Spreed Tolerance	† Tolerance 1/min : +- 15
cm3/1000 strokes : 8.0	rack travel mm : 0.85
Check tolerance	+ Tolerance mm : + 0.55
cm3/1000s. : 12.0	Rated speed rpm : 1400
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ rack travel mm : 4.00 + Rated speed rpm : 1120 + Tolerance 1/min : +- 15 - Check + speed 1/min : +- 20
GUIDE SLEEVE POSITION	† †
control lever position degree : - 3 Rated speed rpm : 800	LOW IDLE
15.75	- control lever
Rack travel in mm: 0.50 Tolerance mm: +- 0.20	position degree : 94.0
governor spring	+ Setting point w/out bumper spring
pre-tension	Rated speed rpm : 450
click setting x : 3.00	rack travel mm : 4.00 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
Rated speed rpm : 1000 Aneroid pressure	Rated speed rpm : 450 rack travel mm : 4.50
hPa : 1200	Tolerance mm : +- 0.10
Del. quantity	†
cm3/1000 strokes : 126.0 Tolerance	+ rack travel mm : 2.00 + Rated speed rpm : 580
cm3/1000 strokes : +- 1.0	+ Tolerance 1/min : +- 30

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1000 : 9.25 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 9.30 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 320 : 9.80 : +- 0.20
Rated speed rpm rack travel mm Tolerance mm	: 450 : 9.30 : +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 9.30 : +- 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 8.50 : + 0.15
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 425 : 8.90 : +- 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1200 : 700
cm3/1000 strokes Tolerance	: 179.0
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 3.0 : +- 6.0

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 77.0 : +- 1.0 : +- 4.0
STARTING FUEL DELI	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm	: 450
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: +- 0.10
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000s. Spreed	: +- 6.0
	: 8.0
Check tolerance cm3/1000s.	: 12.0
End of test specif	fication shoot

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.05.97 Test oil : ISO 4113

Combination No. : 0 402 610 804

Injection pump

Pump designation : PE12P12OA500/5RS7376

EP type number : 0 412 620 843

Governor

Governer design. :
Governer no. :

Cust. part No. : 1 2277 436

Customer-spec. information

Customer : MWM
Motor : TBD 616-V12

Power KW : 648.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.60
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 13.00 Tolerance mm : + 0.50

Firing order : 1-2-9-10-5-6

: - 11- 12- 3- 4 : - 7- 8

Phasing : 0-30-60-90-120-150

: -180-210-240-270

: -300-330

Tolerance : + 0.50

Check

tolerance "NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 12.35 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 285.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.	: +- 4.0
Spreed	warnings for the title title high and appears the tips with the region in the tips till and
Tolerance cm3/1000 strokes	: 6.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm Del. quantity	: 325
cm3/1000 strokes Tolerance	: 30.0
cm3/1000 strokes Check tolerance	: + 3.0
cm3/1000S. Spreed	: + 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
(B) SETTING OF IN- WITH GOVERNOR	JECTION PUMP
FULL LOAD DELIVERY	Y AT FULL LOAD STOP
Rated speed rpm	: 750
Ameroid pressure hPa	: -
Del. quantity cm3/1000 strokes Tolerance	: 285.0
cm3/1909 strckes Check tolerance	: +- 10
cm3/1000S. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	: 6.0
Check tolerance cm3/1000S.	: 9.0

LOW IDLE	
Rated speed rpm	: 325
Del. quantity cm3/1000 strokes	: 30.0
Tolerance cm3/1000 strokes	: ← 3.0
Check tolerance cm3/1000s.	: +- 6.0
Spreed Tolerance	
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
End of test speci	

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.05.97 Test oil : ISO 4113

Combination No. : 0 402 618 801

Injection pump

Pump designation : PE8P12OA5OO/5RS7144

EP type number : 0 412 628 821

Governor

Governer design. : Governer no. :

Cust. part No. :

Customer-spec. information

Customer : MWM

Motor : TBD234V16

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-2A- 3- 4A- 7

: - 8A- 5- 6A

Phasing : 0-30-90-120-135

: -165-225-255

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: + 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance "NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800

Rack trays! in mm : 14.95

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 261.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 9.0 325 Rated speed rpm Del. quantity 35.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP 800 Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes : 261.0 Tolerance cm3/1000 strokes : + 1.0Check tolerance cm3/1000s. 4.0

TORQUE CONTROL Rated speed rpm rack travel mm

cm3/1000 strokes :

Check tolerance

cm3/1000s.

800 14.95 : +- 0.05 Tolerance mm

5.0

9.0

1150 Rated speed rpm 14.95 rack travel mm Tolerance mm : + - 0.10

Rated speed rpm : 1100 rack travel mm 5.00 : +- 0.10Tolerance mm

Rated speed rpm : 1100 rack travel mm ; 7.00 : +- 0.10 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1150 Rated speed rpm

Del. quantity

cm3/1000 strokes : 260.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. 6.0

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

hPa 1100 Rated speed rpm

Del. quantity

cm3/1000 strokes : 0.1

Tolerance

cm3/1000 strokes : \leftarrow 0.1

Delivery for shutoff assemblies (refer to cam sequence).

Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

hPa

1100 Rated speed rpm

Del. quantity

cm3/1000 strokes : 45.0

Tolerance

cm3/1000 strokes : + 25.0

Check tolerance

cm3/1000s. : +- 25.0

LOW IDLE

Spreed Tolerance Delivery for standard plunger/barrel assemblies. Zero delivery for shutoff assemblies (refer to cam sequence),

Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : +- 5.0

Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 05,05,97 Edition Test oil : ISO 4113 Combination No. : 0 402 646 608 Injection pump Pump designation : PE6P120A720RS7188 : -10J : 0 412 626 926 EP type number Governor Governer design. : RQ200/950PA745-3 : 0 421 801 579 Governer no. Cust. part No. : 1344920 Customer-spec. information : SCANIA Customer Motor : DSC 11 71 TEST BENCH REQUIREMENTS Inlet line : 4.2 Vibration damper (RoBo diaphragm) : 3.1 Test oil inlet 40 temp. °C Tolerance °C 2.0 : 1 417 413 025 Overflow valve Inlet press. bar : 2.5 Tolerance bar : +- 0.1 Overflow quantity

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: 1 688 901 104

Tolerance l/h: +- 20.0

Tolerance bar : +- 1.5 Test lines : 1 680 750 008 Outside diameter : 6.0 x inside diameter : 2.0 x length mm : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : + 1.0 Prestroke mm : 4.45 Tolerance mm : +- 0.05Check tolerance mm : + 0.10Rack travel in mm: 10.50 Tolerance mm : +- 1.50 : 1-5-3-6-2-Firing order Phasing : 0-60-120-180-240 : -300 Tolerance : +- 0.50 Check : + - 0.75tolerance *NW Start of delivery mark Barrel no. : 1

Opening pressure

bar

: 251.5

min. L/h

assembly

Test nozzle holde

		†	Rated speed rpm guide sleeve	: 1045
BASIC SETTING		Ī	travel mm Tolerance mm	: 5.50 : +- 0.10
Rated speed rpm	: 700	+	Rated speed rpm	: 1360
Rack travel in mm Tolerance mm		† † †	guide sleeve travel mm Tolerance mm	: 11.50 : +- 0.50
Rated speed rpm	: 250	Ŧ	GUIDE SLEEVE POSI	TION
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 0.10 : 16.0	++++++++	control lever position degree Rated speed rpm Rack travel in mm Tolerance mm	: 600
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 4.0 : 8.0	++++++	CONTROL LEVER control lever position degree tolerance degree	
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	† † † †	control lever position degree tolerance degree	: 95.0 : + 4.0
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm			RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min Check speed 1/min	: 9.70 : 1050 : + 5 : + 10
Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : + 0.20	+++++	rack travel mm Rated speed rpm Tolerance 1/min Check speed 1/min	: 4.00 : 1135 : + 15 : + 20
Rated speed rpm guide sleeve travel mm Tolerance mm	: 930 : 4.50 : + 0.10	++++	rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1250
Rated speed rpm guide sleeve travel mm Tolerance mm	: 355 : 2.97 : + 0.10	+ + + + + + + + + + + + + + + + + + + +	LOW IDLE	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 520 : 4.50 : + 0.10	+ + + + + + + + + + + + + + + + + + + +	control lever position degree tolerance degree	

control lever

position degree : 8.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 150

CRT mm min. :> 6.00

Testing:

Rated speed rpm : 250 rack travel mm : 4.70 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : +- 20

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 10.75 Tolerance mm : + 0.05

Rated speed rpm : 950 rack travel mm : 10.75 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 950

Del. quantity

cm3/1000 strokes : 158.0

Tolerance

cm3/1000 strokes : +- 4.0

Check tolerance

cm3/1000s. : +- 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 10.75 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 170.0

Tolerance

cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : + 24.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 16.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance cm3/1000 strokes : 4.0

Chesk tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 05,05,97

Test oil

: ISO 4113

Combination No. : 0 402 676 804

Injection pump

Pump designation : PE6P12OA32ORS7142

EP type number : 0 412 626 820

Governor

Governer design. : RSUV325...1150P0A358

Governer no.

: 0 421 829 105

Cust. part No. :

Customer-spec. information

Customer : MWM

Motor

: D-TBD 234 V6

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

Tolerance bar

208.5

Test Lines : 1 680 750 075

8.0

x inside diameter :

Outside diameter :

3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : +- 1.0

Frestroke nm :

5.25

Tolerance mm

: +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-6A- 3- 2A- 5 : - 4A

Phasing

: 0-90-120-210-240

: -330

Tolerance

: +- 0.50

Check

tolerance "NW

: +- 0.75

Start of delivery mark

Tolerance

: +- 0.50

Check

tolerance °NW

: +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm :

800

Rack travel in mm:

14.95

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 261.0

Tolerance

cm3/1000 strokes : +- 1.0

F28

Check tolerance cm3/1000s. : +- 4.0 Spreed	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	CONTROL LEVER
Rated speed rpm : 325	<pre>control lever position degree : 60.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 6.60 Tolerance mm: + 0.10 Del. quantity	control lever position degree : 110.0 tolerance degree : + 4.0
cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : +- 5.0 Check tolerance	RATED SPEED rack travel mm : 13.90 Rated speed rpm : 1195
cm3/1000s. : + 8.0 Spreed Tolerance cm3/1000 strokes : 6.0	Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1295
Check tolerance cm3/1000s. : 10.0	Tolerance 1/min : +- 15 rack travel mm : 0.85 Tolerance mm : +- 0.55
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1440
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 73.0 tolerance degree : + 4.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	<pre>control lever position degree : 23.0 tolerance degree : + 4.0</pre>
governor spring pre-tension click setting x : 4.00	Setting point w/out bumper spring Rated speed rpm : 325
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 6.10 Tolerance mm : + 0.10
Rated speed rpm : 800 Aneroid pressure	Testing:
hPa : 900 Del. quantity cm3/1000 strokes : 261.0 Tolerance	Rated speed rpm : 325 rack travel mm : 6.60 Tolerance mm : +- 0.10
cm3/1000 strokes : +- 1.0	rack travel mm : 2.00

Rated speed rpm Tolerance 1/min	
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 800 : 14.95 : +- 0.05
Rated speed rpm	: 1150
rack travel mm	: 14.95
Tolerance mm	: +- 0.10
Rated speed rpm	: 1100
rack travel mm	: 5.00
Tolerance mm	: + 0.10
Rated speed rpm	: 1100
rack travel mm	: 7.00
Tolerance mm	: ← 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

:	500
:	-
:	9.50
: +	- 0.10
	:

MEASUREMENT

Pressure hPa	:	725
rack travel mm	:	14.75
Tolerance mm	: +	- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	
hPa	: 900
Rated speed rpm	: 1150
CHIST TOOC OCTORES	: 260.0
Tolerance cm3/1000 strokes	: + 3.0
Check tolerance cm3/1000s.	: + 6.0

Delivery for shutoff assemblies (refer to cam sequence).
Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure			
hPa	:		-
Rated speed rpm	:	11	100
Del. quantity			
cm3/1000 strokes	:		0.1
Tolerance			
cm3/1000 strokes	:	+-	0.1
Check tolerance			
cm3/1000s.	:	+	0.1

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure				
hPa	:		_	
Rated speed rpm	:	1	100	
Del. quaritity				
cm3/1000 strokes	:		45.0	
Tolerance				
cm3/1000 strokes		+-	25.0	
Check tolerance				
cm3/1000s.	:	+-	25.0	

		_
:		500
:		130.0
:	+-	2.0
:	+	4.0
	•	: : : +-

STARTING FUEL DELIVERY

Rated speed rpm Del. quantity	:	100
cm3/1000 strokes	:	220.0
Tolerance cm3/1000 strokes	: +	- 20.0

LOW IDLE

Delivery for standard plunger/barrel assemblies. Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm 325 Rack travel in mm : 6.60

Tolerance mm	: +-	0.10
Del. quantity		
cm3/1000 strokes	:	35.0
Tolerance		
cm3/1000 strokes	: +-	5.0
Check tolerance		
cm3/1000s.	: +-	8.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	:	10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 06,05,97 : ISO 4113

Combination No. : 0 402 676 809

Injection pump

Pump designation : PE6P120A720RS7126

: -10

EP type number

: 0 412 626 929

Covernor

Governer design. : RSV350...1050P1A543

: -1

Governer no.

: 0 421 833 325

Cust. part No.

: 1305082

Customer-spec. information

Customer

: SCANIA

Motor

: 0811 54,57

TEST BENCH REQUIREMENTS

Inlet line

: 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve

: 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

208.5

: **←** 1.5

Tolerance bar

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter :

1.5

x length mm

: 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 5.05 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

700

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : + - 0.75

1 Barrel no. :

BASIC SETTING

Rated speed rpm :

الله الله الله الله الله الله الله الله	+
Rack travel in mm: 14.15 Tolerance mm: + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 235.0	Rated speed rpm : 700 Aneroid pressure hPa : 900
Tolerance cm3/1000 strokes : +- 1.0	Del. quantity cm3/1000 strokes : 235.0 Tolerance
Check tolerance cm3/1000s. : +- 4.0	cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
Spreed	+ Spreed + Tolerance + cm3/1000 strokes : 6.0
Tolerance cm3/1000 strokes : 6.0	Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s. 9.0	
	+ CONTROL LEVER
Rated speed rom : 350	control lever position degree : 62.0 tolerance degree : +- 4.0
Rack travel in mm: 4.40 Tolerance mm: + 0.10 Del. quantity	control lever position degree : 112.0
cm3/1000 strokes : 17.0 Tolerance	tolerance degree : + 4.0
cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.0	+ RATED SPEED + rack travel mm : 13.10 + Rated speed rpm : 1095
Spreed Tolerance	Tolerance 1/min : + 5 Check
cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 6.0	speed 1/min : + 0 rack travel mm : 4.00
	Rated speed rpm : 1180 Tolerance 1/min : +- 15
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	the Check speed 1/min : +- 20
GUIDE SLEEVE POSITION	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
control lever position degree : - 3	
Rated speed rpm : 800	LOW IDLE
Rack travel in mm: 0.50 Tolerance mm : + 0.20	- control lever - position degree : 78.0
governor spring pre-tension	tolerance degree : + 4.0
click setting x : 5.50	+ control lever + position degree : 28.0

tolerance degree	: +- 4.0	<u>t</u>
Setting point w/d	out bumper spring	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 3.90	Aneroid pressure
Rated speed rpm	: 100	- hPa : 900 - Rated speed rpm : 1000 - Del. quantity
CRT mm min.	: > 19.50	cm3/1000 strokes : 227.0
Testing:		cm3/1000 strokes : +- 4.0
Rated speed rpm rack travel mm Tolerance mm	: 350 : 4.40 : +- 0.10	Check tolerance cm3/1000s. : +- 6.0
rack travel mm Rated speed rpm Tolerance 1/min	: 460	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 152.0
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 14.15	Tolerance - cm3/1000 strokes : +- 2.0 - Check tolerance - cm3/1000s. : +- 4.0
Rated speed rpm rack travel mm Tolerance mm	: 14.15	STARTING FUEL DELIVERY Rated speed rpm : 100
ANEROID/ALTITUDE COMPENSATOR TEST		+ rack travel mm : 20.50 Tolerance mm : +- 0.50 + Del. quantity + cm3/1000 strokes : 300.0
SETTING		Tolerance + cm3/1000 strokes : +- 20.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 900 : 14.15 : +- 0.05	Check tolerance : +- 24.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 10.70 : +- 0.20	LOW IDLE Rated speed rpm : 350
MEASUREMENT		Rack travel in mm: 4.40 Tolerance mm: + 0.10
Rated speed rpm	: 500	Del. quantity - cm3/1000 strokes : 17.0 - Tolerance
Pressure hPa rack travel mm	: 510 : 13.05	cm3/1000 strokes : +- 2.0 - Check tolerance
Tolerance mm Pressure hPa	: +- 0.05 : 250	- cm3/1000S. : +- 4.0 - Spreed - Tolerance
rack travel mm Tolerance mm	: 11.60 : + 0.20	cm3/1000 strokes : 3.0

Check tolerance cm3/1000s.	:	6.0	

x length mm : 1000 BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks **REMARKS** Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... (A) INJECTION PUMP SETTING VALUES : 05,05,97 Edition Set equal delivery quant. Test oil : ISO 4113 per values ____ Combination No. : 0 402 678 805 BEGINNING OF DELIVERY Injection pump Pump designation : PE8P120A520/5RS7143 Test pressure bar : EP type number : 0 412 628 820 Tolerance bar : +- 1.0 Governor Governer design. : RSUV325...1150P0A358 Prestroke mm 5.25 Governer no. : 0 421 829 105 : +- 0.50 Tolerance mm Check tolerance mm : +- 0.10 Cust, part No. Pack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50 Customer-spec. information Customer : MWM Firing order : 1-8A- 5- 4A- 7 : TBD234V8 Motor : - 2A- 3- 6A TEST BENCH REQUIREMENTS Phasing : 0-30-90-120-180 : -210-270-300 : 3.1 Inlet line Tolerance : +- 0.50 Check tolerance °NW : +- 0.75 Test oil inlet Start of delivery mark temp. °C Tolerance °C : +- 2.0 : + - 0.50Tolerance Check : 1 417 413 025 : + 0.75 Overflow valve tolerance "NW : 1 Barrel no. Inlet press. bar : 1.5 BASIC SETTING Test nozzle holde : 1 688 901 019 assembly Rated speed rpm : 800 Opening pressure 208.5 bar Tolerance bar Rack travel in mm : 14.95 Tolerance mm : +- 0.05 Test lines : 1 680 750 075 Del. quantity cm3/1000 strokes : 261.0 Outside diameter : 8.0 Tolerance

cm3/1000 strokes : +- 1.0

x inside diameter: 3.0

	+ Check tolerance
Check tolerance cm3/1000s. : +- 4.0	cm3/1000s. : +- 4.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 5.0
Tolerance cm3/1000 strokes : 5.0	cm3/1000s. : 9.0
Check tolerance cm3/1000s. 9.0	CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 60.0 tolerance degree : +- 4.0
Rack travel in mm : 6.60 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 35.0	control lever position degree : 110.0 tolerance degree : + 4.0
Tolerance cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0	RATED SPEED rack travel mm : 13.90 Rated speed rpm : 1195 Tolerance 1/min : +- 5
Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0	rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : +- 15 rack travel mm : 0.85
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance mm : +- 0.55 Rated speed rpm : 1440
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 73.0 tolerance degree : + 4.0
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	control lever position degree : 23.0 tolerance degree : + 4.0
<pre>governor spring pre-tension click setting x : 4.00</pre>	Setting point w/out bumper spring Rated speed rpm : 325
FULL LOAD DELIVERY AT FULL LOAD STOP	rack trayel mm : 6.10 Tolerance mm : + 0.10
Rated speed rpm : 800 Aneroid pressure	Testing:
hPa : 900 Del. quantity cm3/1000 strokes : 261.0	Rated speed rpm : 325 rack travel mm : 6.60 Tolerance mm : + 0.10
Tolerance cm3/1000 strokes : +- 1.0	rack travel mm : 2.00

Rated speed rpm : Tolerance 1/min : +-30 TORQUE CONTROL 800 Rated speed rpm : rack travel mm : 14.95 : +- 0.05 Tolerance mm Rated speed rpm : 1150 14,95 rack travel mm : : + - 0.10Tolerance mm Rated speed rpm : 1100 rack travel mm : 5.00 Tolerance mm : ← 0.10 Rated speed rpm : 1100 rack travel mm : 7.00 : + 0.10 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa 9.50 rack travel mm Tolerance mm : +- 0.10 MEASUREMENT Pressure hPa 725 14.75 rack travel mm : Tolerance mm : +- 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 900 Rated speed rpm : 1150 Del. quantity cm3/1000 strokes : 260.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s.

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure hPa Rated speed rpm : 1100 Del. quantity cm3/1000 strokes : 0.1 Tolerance cm3/1000 strokes : +-0.1 Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies. Aneroid pressure hPa Rated speed rpm : 1100 Del. quantity cm3/1000 strakes : 45.0 Tolerance cm3/1000 strokes : +- 25.0 Aneroid pressure hPa Rated speed rpm 500 Del. quantity cm3/1000 strokes : 130.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. : +- 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : +- 24.0

LOW IDLE

Delivery for standard plunger/barrel assemblies. Zero delivery for shutoff assemblies (refer to cam sequence). Rated speed rpm :

Rack travel in mm: 6.60 Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes	:	35.0	
Tolerance cm3/1000 strokes	: +-	5.0	
Check tolerance cm3/1000S.	: +-	8.0	
Spreed Tolerance			
cm3/1000 strokes Check tolerance	:	6.0	
cm3/1000s.	:	10.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05.05.97 : ISO 4113

Combination No. : 0 402 678 806

Injection pump

Pump designation : PE8P120A520/5RS7145

EP type number

: 0 412 628 822

Governor

Governer design. : RSUV325...1150P0A358

: -1

Governer no.

: 0 421 829 106

Cust. part No. :

Customer-spec. information

Customer

: MWM

Motor

: TBD234V16

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

: 1 417 413 025 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 5.25 Tolerance mm : +- **0.**50

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-2A- 3- 4A- 7

: - 8A- 5- 6A

Phasing : 0-30-90-120-225

: -255-315-345

Tolerance : +- 0.50

Check

tolerance *NW : + - 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800

Rack travel in mm: 14.95

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 261.0

Tolerance + cm3/1000 strokes : +- 1.0	Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : +- 4.0	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 5.0
Tolerance cm3/1000 strokes : 5.0	Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	CONTROL LEVER
Rated speed rpm : 325	<pre>control lever position degree : 50.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 6.60 Folerance mm: + 0.10 Del. quantity cm3/1000 strokes: 35.0	control lever position degree : 110.0 tolerance degree : +- 4.0
Tolerance cm3/1000 strokes : +- 5.0 check tolerance	RATED SPEED rack travel mm : 13.90 Rated speed rpm : 1195
cm3/1000s. : +- 8.0 Spreed	Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : 6.0 check tolerance	rack travel mm : 4.00 Rated speed rpm : 1295 Tolerance 1/min : +- 15
cm3/1000s. : 10.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1440
WITH GOVERNOR	
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : -3 Rated speed rpm : 800	control lever position degree : 73.0 tolerance degree : +- 4.0
Rack travel in mm : 0.50 Tolerance mm : + 0.20	<pre>control lever position degree : 23.0 tolerance degree : +- 4.0</pre>
governor spring pre-tension click setting x : 4.00	Setting point w/out bumper spring
	Rated speed rpm : 325 rack travel mm : 6.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
Rated speed rpm : 800 Aneroid pressure	Testing:
hPa : 900 + Del. quantity cm3/1000 strokes : 261.0 + Del.	Rated speed rpm : 325 rack travel mm : 6.60 Tolerance mm : +- 0.10

:	2.00
:	470
;	+- 30
	:

TORQUE CONTROL		
Rated speed rpm	:	800
rack travel mm	:	14.95
Tolerance mm	. +-	- 0.05

Rated speed rpm :
$$1150$$
 rack travel mm : 14.95 Tolerance mm : $+$ 0.10

Rated speed rpm	:	1100
rack travel mm	·	5.00
Tolerance mm	: -	

Rated speed rpm	:	1100
rack travel mm	:	7.00
Tolerance mm	: -	

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	500
Pressure hPa	:	-
rack travel mm	:	9.50
Tolerance mm	: +-	0.10

MEASUREMENT

Pressure hPa	:	725
rack travel mm	:	14.75
Tolerance mm	: +-	- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	900
Rated speed rpm	:	1150
Del. quantity		
cm3/1000 strokes	:	260.0
Tolerance		
cm3/1000 strokes	:	 3.0
Check tolerance		

cm3/1000s. : +-

Delivery for shutoff assemblies

(refer to cam sequence).
Arbitrary delivery for standard plunger

6.0

barrel assemblies.

hPa	:	-
Rated speed rpm	:	1100
Del. quantity		
cm3/1000 strokes	:	0.1
Tolerance		
cm3/1000 strokes	: +-	0.1

Delivery for shutoff assemblies (refer to cam sequence).

Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

nPa	:	-
Rated speed rpm	:	1100
Del. quantity		
am7/1000 atmakan		_

cm3/1000 strokes : 0.1

Tolerance

cm3/1000 strokes : \leftarrow 0.1

Aneroid pressur

hPa	:	-
Rated speed rpm	:	500
Del. quantity		
cm3/1000 strokes	:	130.0
Tolerance		
cm3/1000 strokes	: +	- 2.0
Check tolerance		
cm3/1000s.	: +	- 4.0

LOW IDLE

Delivery for standard plunger/barrel assemblies. Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm	:		325
Rack travel in mm Tolerance mm Del. quantity	:	+-	6.60 0.10
cm3/1000 strokes Tolerance	:		35.0
ណា3/1000 strokes	:	+-	5.0
Check tolerance cm3/1000S. Spreed	:	+-	8.0

Tolerance cm3/1000 strokes : 6.0

Check tolerance cm3/1000S.	:	10.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W40D/...

Edition : 04.12.96 Test oil : ISO 4113

Combination No. : 0 402 746 985

Injection pump

Pump designation : PES6P120A720RS7224

: -2

EP type number : 0 412 726 893

Governor

Governer design. : RQ275/1050PA1021-2

Governer no. : 0 421 801 676

Cust. part No. :

Customer-spec. information

Customer : IVECO-UNIC Motor : 8460.41.721

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 160 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

DEMARKS

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.15 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

Check

tolerance °NW : +- 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.85 Tolerance mm : +- 0.05

Rated speed rpm : 275	Rated speed rpm : 275 rack travel mm : 5.10 Tolerance mm : + 0.10
Rack travel in mm: 5.10 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 23.0 Tolerance cm3/1000 strokes: + 3.0	rack travel mm : 2.00 Rated speed rpm : 355 Tolerance 1/min : +- 20
Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 10.85 Tolerance mm : +- 0.05 Rated speed rpm : 550 rack travel mm : 10.85 Tolerance mm : +- 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	ANEROID/ALTITUDE COMPENSATOR TEST
GUIDE SLEEVE POSITION	+ SETTING
control lever position degree : 109 Rated speed rpm : 600	Rated speed rpm : 500 Pressure hPa : 900 rack travel mm : 10.85 Tolerance mm : 4- 0.05
Rack travel in mm: 20.00 Tolerance mm: + 0.80	Rated speed rpm : 500 Pressure hPa : - rack travel mm : 7.60 Tolerance mm : +- 0.20
RATED SPEED rack travel mm : 9.80 Rated speed rpm : 1103 Tolerance 1/min : +- 8	MEASUREMENT Rated speed rpm : 500
rack travel mm : 4.00 Rated speed rpm : 1160 Tolerance 1/min : +- 15	Pressure hPa : 250 rack travel mm : 8.35 Tolerance mm : +- 0.10
rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1350	Pressure hPa : 430 rack travel mm : 9.95 Tolerance mm : + 0.05
	Start interlock
LOW IDLE	Rated speed rpm : > 100 Rated speed rpm : < 215
Setting point w/out bumper spring	Check
Rated speed rpm : 100	speed 1/min :> 80 Check
CRT mm min. :> 6.60	speed 1/min : < 235
Testing:	+

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 900 Rated speed rpm : 550

Del. quantity

cm3/1000 strokes : 221.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 127.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 135.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : 5.10 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 23.0

Tolerance

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : \leftarrow 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.05.97 Test oil : ISO 4113

Combination No. : 0 403 466 180

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 0 413 406 237

Governor

Governer design. : RSV425...1150MW2A407

Governer no. : 0 420 085 298

Cust. part No. : 3284067

Customer-spec. information

Customer : CDC
Motor : 6 CT
Power KW : 129.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm : 2.80 Tolerance mm : +- 0.05

Check

tolerance mm : -- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 8.25

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 9.95 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 119.0

Tolerance +	- Tolerance
cm3/1000 strokes : +- 1.0	- cm3/1000 strokes : +- 1.0
	Check tolerance
Check tolerance	- cm3/1000s. : +- 4.0
cm3/1000s. : +- 4.0	
CM3/ (UUUS. ; 7- 4.U	- Spreed
	- Tolerance
Spreed	- cm3/1000 strokes : 4.0
+	- Check tolerance
Tolerance	- cm3/1000s. : 7.5
cm3/1000 strokes : 4.0	•
	_
Check tolerance	
cm3/1000s. : 7.5	- CONTROL LEVER
(III)/ (UUUS, / .)	CONTROL LEVER
-	
†	- control lever
	- position degree : 102.0
Rated speed rpm : 440	- tolerance degree : +- 4.0
+	•
Rack travel in mm: 5.20	RATED SPEED
Tolerance mm : +- 0.10	rack travel mm : 8.90
Del. quantity	- Rated speed rpm : 1200
cm3/1000 strokes : 24.5	Tolerance 1/min : +- 5
Tolerance	Toterance Minn.
cm3/1000 strokes : +- 2.0	rack travel mm : 4.00
Check tolerance	- Rated speed rpm : 1275
cm3/1000s. : +- 4.5	- Tolerance 1/min : +- 5
Spreed	-
Tolerance	- rack travel mm : 1.00
cm3/1000 strokes : 3.5	- Tolerance mm : +- 0.70
Check tolerance	- Rated speed rpm : 1400
cm3/1000s. : 5.5	- Marca spesa i piii : 1400
(1137 10003.	
-	- rack travel mm : 4.00
	- Rated speed rpm : 1275
(B) SETTING OF INJECTION PUMP	- Tolerance 1/min : +- 15
WITH GOVERNOR	•
+	-
+	-
GUIDE SLEEVE POSITION	- LOW IDLE
+	•
4	
control lever	- control lever
position degree : - 3	- position degree : 81.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Mateu speed (pm) : 000	
Rack travel in mm: 0.65	Setting point w/out bumper spring
	setting bottle wrong bumper spring
Tolerance mm : +- 0.35	
. +	- Rated speed rpm : 440_
governor spring	- rack travel mm : 4.70
pre-tension +	- Tolerance mm : +- 0.10
click setting x : 3.75	•
	- Rated speed rpm : 100
	- Kateu Speed rum : 100
	- Rated speed rpm : 100 -
	•
FULL LOAD DELIVERY AT FULL LOAD STOP	- Rated speed rpm : 100 - CRT mm min. : > 19.00
FULL LOAD DELIVERY AT FULL LOAD STOP	- CRT mm min. : > 19.00
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150	•
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure	CRT mm min. : > 19.00 - Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : 900	CRT mm min. :> 19.00 Testing: Rated speed rpm : 440
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : 900 Del. quantity	CRT mm min. :> 19.00 Testing: Rated speed rpm : 440 rack travel mm : 5.20
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1150 Aneroid pressure hPa : 900	CRT mm min. :> 19.00 Testing: Rated speed rpm : 440

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST	: 9.95 : +- 0.05 : 750		Del. quantity cm3/1000 strokes : 115.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 1.00 Del. quantity cm3/1000 strokes : 177.0 Tolerance cm3/1000 strokes : +- 10.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 900 : 10.30 : + 0.10	+++++++++++++++++++++++++++++++++++++++	Check tolerance cm3/1000s. : +- 13.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	10.05	†	LOW IDLE Rated speed rpm : 440
MEASUREMENT		+	Rack travel in mm : 5.20 Tolerance mm : +- 0.10
Rated speed rpm	: 500	Ţ	Del. quantity cm3/1000 strokes : 24.5
Pressure hPa rack travel mm Tolerance mm	: 10.20		Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance
FUEL DELIVERY CHA	ARACTERISTICS	+	cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 900 : 750 : 125.0 : ← 2.0 : ← 5.0	+++++++++++++++++++++++++++++++++++++++	End of test specification sheet
cm3/1000 strokes Check tolerance cm3/1000s.	: 6.0 : 9.0	+++++++++++++++++++++++++++++++++++++++	
Aneroid pressure hPa Rated speed rpm	: - : 500	‡	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.05.97 Test oil : ISO 4113

Combination No. : 0 402 746 622

Injection pump

Pump designation : PES6P12OA72ORS7424

EP type number : 0 412 726 964

Governor

Governer design. : RQV325...900PA944

: -25K

Governer no. : 0 421 815 536

Cust. part No. : 313GC5223-P16

Customer-spec. information Customer : MACK Motor : E7-350 Power KW : 261.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. $^{\circ}C$: 40 Tolerance $^{\circ}C$: \leftarrow 2.0

Overflow valve : 2 413 359 008

Inlet press. bar : 2.8 Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.80
Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 12.00 Tolerance mm: +- 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : ← 0.75

Start of delivery blocking

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 14.15

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes	: 319.5	CONTROL LEVED
Tolerance cm3/1000 strokes	: + 1.0	control Lever position degree : 117.0
Check tolerance cm3/1000S.	: +- 4.0	tolerance degree : +- 6.0
Spreed	the age and that the starting type and and "to the time the stay pay and you this over the	rack travel mm : 13.10 Rated speed rpm : 945
Tolerance cm3/1000 strokes	: 5.0	Tolerance 1/min : +- 5 rack travel mm : 4.00
Check tolerance cm3/1000S.	: 9.0	Rated speed rpm : 1115 Tolerance 1/min : +- 15
		rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm	+	Rated speed rpm : 1200
Rack travel in mm Tolerance mm Del. quantity	÷ 4.80 ÷ + 0.10	
cm3/1000 strokes Tolerance	: 31.5	FOM IDFE
cm3/1000 strokes Check tolerance	: + 3.0	control lever
cm3/1000S. Spreed	: ← 5.0	position degree : 64.0 tolerance degree : +- 6.0
Tolerance cm3/1000 strokes Check tolerance	: 8.0	Setting point w/out bumper spring
cm3/1000s.	: 12.0	Rated speed rpm : 275
(B) SETTING OF INJ	JECTION PUMP	CRT mm min. : > 6.10
WITH GOVERNOR	+	Testing:
FULL LOAD DELIVERY	Y AT FULL LOAD STOP	Rated speed rpm : 340 rack travel mm : 4.80 Tolerance mm : +- 0.10
Rated speed rpm Aneroid pressure	: 900	Rated speed rpm : 425
hPa Del. quantity	: 1200	TORQUE CONTROL
cm3/1000 strokes Tolerance	+	Rated speed rpm : 900 rack travel mm : 14.15
cm3/1000 strokes Check tolerance	: ← 1.0 †	Tolerance mm : + 0.05
cm3/1000S. Spreed Tolerance	: +- 4.0	Rated speed rpm : 625 rack travel mm : 13.60 Tolerance mm : +- 0.10
cm3/1000 strokes Check tolerance	: 5.0	Rated speed rpm : 500
cm3/1000S.	: 9.0	rack travel mm : 12.80 Tolerance mm : + 0.40
	+	

ANTROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 900 : 1200
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 900 : - : 8.50 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 900
Pressure hPa rack travel mm Tolerance mm	: 810 : 13.20 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 420 : 10.15 : ← 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 250
Check speed 1/min Check	: > 80
speed 1/min	: < 255
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1200 : 625
Del. quantity cm3/1000 strokes	: 339.5
Tolerance cm3/1000 strokes Check tolerance	: + 3.0
cm3/1000S. Spreed	: +- 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - 400 : 171.0 : +- 2.0 : +- 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm	: 340
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 4.80 : +- 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 13.05.97 : ISO 4113

Test oil

Combination No. : 9 400 030 746

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Covernor

Governer design. : RSV475...1250A0C862R

Governer no. : 9 420 034 720

Cust. part No. : 3930150

Customer-spec. information

Customer : CDC

Motor

: 4873.9

Power KW

: 67.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C : +- 2.0

Overflow valve : 1 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle hoide

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Tolerance bar : +- 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

"NW after s.o.d. : 7.50

Tolerance : \div 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.25

Tolerance mm: \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 95.0

Tolerance cm3/1000 strokes : +- 1.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000s. : +- 3.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 3.5 Check tolerance
Tolerance cm3/1000 strokes : 3.5	cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	CONTROL LEVER
	control lever
Rated speed rpm : 475	position degree : 106.0 tolerance degree : +- 4.0
Rack travel in mm: 5.50	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 10.20
Del. quantity +	Rated speed rpm : 1315
cm3/1000 strokes : 20.5	Tolerance 1/min : + 10
Tolerance +	70
cm3/1000 strokes : + 2.0 + Check tolerance +	rack travel mm : 4.70 Rated speed rpm : 1380
cm3/1000s. : + 4.5	Tolerance 1/min : +- 5
Spreed	Toterance minn
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 3.5	Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1500
cm3/1000s. : 5.5	
+	rack travel mm : 4.70
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1380 Tolerance 1/min : +- 15
WITH GOVERNOR	Toterance Thinn : +- 15
#IIII GOVERNON	
+	
GUIDE SLEEVE POSITION	LOW IDLE
Ĭ	
control lever	control lever
position degree : -3	position degree : 77.0
Rated speed rpm : 800	tolerance degree : +- 4.0
†	
Rack travel in mm: 0.50	Control lever difference
Tolerance mm : +- 0.20	Grad : 29.0 tolerance degree : +- 6.0
governor spring	toterance degree 0.0
pre-tension +	Setting point w/out bumper spring
click setting x : 4.75	section is person with an admitted to the finite
+	Rated speed rpm : 475
	rack travel mm : 5.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
Poted around rom : 1250	Dated speed spe
Rated speed rpm : 1250 + Aneroid pressure +	Rated speed rpm : 100
hPa : 900	CRT mm min. : > 19.00
Del. quantity	VIII 1000 107131
cm3/1000 strokes : 95.0	Testing:

Rated speed rpm rack travel mm Tolerance mm	: 475 : 5.50 : +- 0.10
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1250 : 11.25 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.70 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 600 : 900
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : − : 10.90 : ← 0.20
MEASUREMENT	
Rated speed rpm	: 600
Pressure hPa rack travel mm Tolerance mm	: 590 : 11.40 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 490 : 11.05 : +- 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 900 : 750
Del. quantity cm3/1000 strokes Tolerance	: 100.0
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 2.0 : +- 4.0
Aneroid pressure	_

Rated speed rpm Del. quantity	:	600
cm3/1000 strokes Tolerance	:	85.5
cm3/1000 strokes Check tolerance	: +-	- 1.0
cm3/1000s.	: +-	- 3.0
STARTING FUEL DEL	IVER'	Y
Rated speed rpm rack travel mm	:	100 20.50

Rated speed rpm rack travel mm Tolerance mm	: +-	100 20.50 0.50
Del. quantity cm3/1000 strokes Tolerance	•	122.5
cm3/1000 strokes Check tolerance	: +-	10.0
cm3/1000s.	: +-	15.0

		_
LOW IDLE		
Rated speed rpm	: 475	
Rack travel in mm Tolerance mm Del. quantity	: 5.50 : +- 0.10	
cm3/1000 strokes	: 20.5	
Tolerance cm3/1000 strokes Check tolerance	: +- 2.0	
cm3/1000s.	: +- 4.5	
Tolerance cm3/1000 strokes Check tolerance	: 3.5	
cm3/1000s.	: 5.5	

End of test specification sheet

hPa

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 12,05,97 : ISO 4113

Combination No. : F 002 A0Z 057

Injection pump

Pump designation : PES4A95D320/3RS2927

EP type number : F 002 A10 017

Governor

Governer design. : RSV475...1250A0C936R

Governer no. : F 002 A20 241

Cust. part No. : 3930145

Customer—spec. information

Customer : CDC : 4BNA3.9 Motor

Power KW

: 59.7

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 1 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde assembly : 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

Phasing

Tolerance

: 0-90-180-270 : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 9.00

Tolerance

: +- 0.50

Check

tolerance °NW

: **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 9.90

Tolerance mm : +- 0.05

+ Del. quantity	
Tolerance + cm3/1000 strokes : 87.5 cm3/1000 strokes : +- 1.0 + Tolerance	
Check tolerance cm3/1000s. : +- 3.0	
Spreed Spreed Tolerance cm3/1000 strokes : 3.5	
Tolerance + Check tolerance cm3/1000 strokes : 3.5 + cm3/1000s. : 6.0	
Check tolerance cm3/1000s. : 6.0 CONTROL LEVER	
Rated speed rpm : 475 + control lever + position degree : 90.0	
tolerance degree : +- 4.0	
Rack travel in mm : 4.60 + RATED SPEED Tolerance mm : +- 0.10 + RATED SPEED	
Del. quantity + rack travel mm : 8.90	
cm3/1000 strokes : 13.5	
Tolerance	
Check tolerance + rack travel mm : 4.00	
cm3/1000S. : + 4.5 + Rated speed rpm : 1375 Spreed +	
Tolerance + rack travel mm : 0.85	
cm3/1000 strokes : 3.5 † Tolerance mm : +- 0.55	
Check tolerance + Rated speed rpm : 1450 cm3/1000s. : 5.5 +	
+ rack travel mm : 4.00	
(B) SETTING OF INJECTION PUMP + Rated speed rpm : 1380 WITH GOVERNOR + 15	
GUIDE SLEEVE POSITION + LOW IDLE	
control lever position degree : - 3 Rated speed rpm : 800 control lever position degree : 70.0 tolerance degree : + 4.0	
Rack travel in mm : 0.50	
governor spring + tolerance degree : +- 6.0	
pre-tension + Setting point w/out bumper spr click setting x : 3.50 +	ing
+ Rated speed rpm : 475 + rack travel mm : 4.10	
FULL LOAD DELIVERY AT FULL LOAD STOP Tolerance mm : +- 0.10	
Rated speed rpm : 1250 + Rated speed rpm : 100	

₹ > 19.00 CRT mm min. Testing: 475 Rated speed rpm rack travel mm 4.60 : +- 0.10 Tolerance mm TORQUE CONTROL 1250 Rated speed rpm 9.90 rack travel mm Tolerance mm : +- 0.05 Rated speed rpm : 600 STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 20.50 Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 15.0 LOW IDLE 475 Rated speed rpm : Rack travel in mm : 4.60 Tolerance mm : +- 0.10 Del. quantity 13.5 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance 5.5 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 14.05.97 : ISO 4113

Combination No. : 0 402 796 816

Injection pump

Pump designation : PES6P12OA720/3LS7396

EP type number : 0 412 726 948

Governor

Governer design. : RE30

Governer no. : 0 421 890 035

Cust. part No. : 51.11103-7485

Customer-spec. information

Customer : MAN

Motor

: D 2866 LF 10

Power KW

: 309.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet

temp. °C

40

Tolerance *C

2.0

Overflow valve : 1 417 413 047

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 089

Outside diameter :

8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm

4.85

Tolerance mm

: +- 0.05

Check

tolerance mm

: +- 0.10

Rack travel in mm: 13.00

Tolerance mm

: +- 0.50

Firing order

: 6-2-4-1-5-

: 3

Phasing

: 0-60-120-180-240

: -300

Tolerance

· · · 0.50

Check

tolerance *NW

: +- 0.75

Start of delivery blocking

Tolerance

: + 0.10

Check

tolerance *NW

: + 0.75

Barrel no. : 6

(B) POSITIONER TESTING

Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION	Test with control rod in stop position
Engine speed min-1: 0	+ Engine speed min-1: 60 + Amplitude V : 1.4 + Tolerance V : +/- 0.6
Setting point (P, R and H pump)	Check tolerance V : +/- 1.20
Uact V : 3.100 CRT mm : 13.00 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10	Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4
Check value (P, R and H pump)	(C) INJECTION PUMP WITH POSITIONER
Uact V : 1.700	TEST POINT V1
Uact V : 1.700 CRT mm : 6.15 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30	Rated speed rpm : 750 Uact V : 3.100 Del. quantity cm3/1000 strokes : 285.0 Tolerance
Setting point (M pump)	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000s. : +- 4.0 - Spreed
Uact V : 3.100 CRT mm : 12.50 Tolerance mm : +/- 0.05 Check	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0
tolerance mm : +/- 0.10	FUEL DELIVERY CHARACTERISTICS
Check value (M pump)	Rated speed rpm : 1000 Uact V : 3.120
Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 9.25	Del. quantity cm3/1000 strokes : 270.0 Tolerance
Check tolerance mm : +/- 0.30	- cm3/1000 strokes : +- 4.0 - Check tolerance - cm3/1000s. : +- 6.0
Stop position	- cm3/1000s. : +- 6.0
Uact V : Value with deenergised adjusting magnet and control rod in	Rated speed rpm : 750 Uact V : 1.470 Del. quantity
stop position. CRT mm : 0.75	cm3/1000 strokes : 73.0 Tolerance
Tolerance mm : +/- 0.25 Check	- cm3/1000 strokes : +- 5.0 - Check tolerance - cm3/1000s. : +- 9.0
tolerance mm : +/- 0.35	+ cm3/1000s. : +- 9.0 + Spreed + Tolerance
ENGINE-SPEED SENSOR (All P and R pumps not	cm3/1000 strokes : 8.0 Check tolerance
H and M pumps)	cm3/1000s. : 12.0

Rated speed rpm Uact V	: 500 : 1.950
Del. quantity cm3/1000 strokes Tolerance	: 118.0
cm3/1000 strokes Check tolerance	: +- 5.0
cm3/1000s.	: +- 9.0
TEST POINT L1	
Rated speed rpm Uact V	: 325 : 1.470
Tolerance Volt Check tolerance	: +- 0.060
Volt Del. quantity	: +- 0.080
cm3/1000 strokes Tolerance cm3/1000 strokes	: 30.0 : + 3.0
Spreed Tolerance	. +- 5.0
	: 8.0
cm3/1000s.	: 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.05.97 Test oil : ISO 4113

Combination No. : 0 402 796 825

Injection pump

Pump designation : PES6P120A720/3LS7435

EP type number : 0 412 726 969

Governor

Governer design. : RE30

Governer no. : 0 421 890 042

Cust. part No. : 51.11103-7503

Customer-spec. information

Customer : MAN

Motor : D 2866 LUE 602

Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.85 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 13.00 Tolerance mm : +- 0.50

Firing order : _6- 2- 4- 1- 5-

: 3

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

Tolerance : + 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 6

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING BACK TRAVEL SENSOR	Test with control rod
TESTING & SETTING RACK TRAVEL SENSOR + POSITION +	in stop position
r031/10N	Engine speed min-1: 60
Engine speed min-1: 0	Amplitude V . 1 /
Engine speed with the control of	Amplitude V : 1.4 Tolerance V : +/- 0.6
Cotting noint	
Setting point (P, R and H pump)	Check tolerance V : +/- 1.20
i i i i i i i i i i i i i i i i i i i	
Uact V : 3.100	Engine speed min-1: 600
CRT mm : 13.00	Difference
Tolerance mm : +/- 0.05	Amplitude to
Check	Amplitude V : max.1.4
tolerance mm : +/- 0.10	· · · · · · · · · · · · · · · · · · ·
	•
Check value	
(P, R and H pump)	(C) INJECTION PUMP WITH POSITIONER
+	•
4 700	TEST POINT V1
Uact V : 3.100 CRT mm : 13.00 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10 Check value (P, R and H pump) Uact V : 1.700 CRT mm : 6.15 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Setting point (M pump) Uact V : 3.100 CRT mm : 12.50 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10 Check value (M pump)	. Datad annual see 270
CRT mm : 6.15	Rated speed rpm : 750 Uact V : 3.100
Tolerance mm : +/- 0.25	Uact V : 3.100
Check + 1/ 0.70	Del. quantity
tolerance mm : +/- 0.30	cm3/1000 strokes : 285.0
T	Tolerance - cm3/1000 strokes : +- 1.0
Satting maint	Charles tolorones : — 1.0
Setting point	Check tolerance : +- 4.0
(M pump)	cm3/1000s. : +- 4.0 Spreed
Uact V : 3.100	Tolerance
CRT mm : 12.59	cm3/1000 strokes : 5.0
Tolerance mm : +/- 0.05	Check tolerance
Check	cm3/1000s. : 9.0
tolerance mm : +/- 0.10	FUEL DELIVERY CHARACTERISTICS
Cotes and control	
Check value	
(M pump)	Rated speed rpm : 1000
	· Uact V : 3.120
Uact V : 1.700	Del. quantity
CRT mm : 5.50	cm3/1000 strokes : 270.0
Tolerance mm : +/- 0.25	Tolerance
Check	cm3/1000 strokes : +- 4.0
tolerance mm : +/- 0.30	Check tolerance
+	cm3/1000s. : +- 6.0
Stop position +	•
+	
Uact V : Value with +	Rated speed rpm : 750
deenergised adjusting magnet +	Uact V : 1.470
and control rod in +	Del. quantity
stop position. +	cm3/1000 strokes : 73.0
CRT mm : 0.75	Tolerance
Tolerance mm : +/- 0.25	cm3/1000 strokes : +- 5.0
Check	Check tolerance
tolerance mm : $\pm 1/-0.35$	cm3/1000s. : +- 9.0
+	Spreed
+	Check tolerance
ENGINE-SPEED SENSOR +	cm3/1000s. : 12.0
(All P and R pumps not +	
Hand M pumps) +	
+	Rated speed rpm : 500

Uact V Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1.950 : 118.0 : + 5.0 : +- 9.0
TEST POINT L1	
Rated speed rpm Uact V Tolerance Volt Check tolerance Volt Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 325 : 1.470 : +- 0.060 : +- 0.080 : 30.0 : +- 3.0 : 8.0 : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.05.97 Test oil : ISO 4113

Combination No. : 0 400 846 591

Injection pump

Pump designation : PES6A95D410RS2797 EP type number : 0 410 896 900

Governor

Governer design. : PQV300...1400A91065

: -22L

Governer no. : 0 420 212 226

Cust. part No. : 020 074 4902

Customer-spec. information
Customer : MB-NFZ
Motor : OM 366
Power KW : 97.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

H**0**9

x inside diameter: 1.5 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.25
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 10.15

Tolerance mm : +- 0.05

Rack travel in mm : 9.00 Tolerance mm : + 0.10

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE TRAVEL control lever position degree : Rated speed rpm : 1500 tolerance degree : +- 4.0 guide sleeve travel mm 8.55 Setting point w/out bumper spring : + 0.05 Tolerance mm Rated speed rpm Rated speed rpm 300 : guide sleeve CRT mm min. :> 9.801.05 travel mm : +- 0.25 Tolerance mm Testing: 500 Rated speed rpm Rated speed rpm rack travel mm : guide sleeve : +- 0.10 travel mm 2.55 Tolerance mm Tolerance mm : +- 0.25 Rated speed rpm : 575 Rated speed rpm 750 quide sleeve travel mm 4.20 TORQUE CONTROL : +- 0.10 Rated speed rpm : Tolerance mm 1400 rack travel mm : Tolerance mm : +- 0.05 GUIDE SLEEVE POSITION Rated speed rpm rack travel mm 11.60 : +- 0.10 control lever Tolerance mm position degree : - 1 Rated speed rpm : 1500 : 630 Rated speed rpm rack travel mm : : +- 0.15 Rack travel in mm: 16.50 Tolerance mm Tolerance mm : +- 1.30 925 Rated speed rpm rack travel mm 10.75 : + 0.15Tolerance mm CONTROL LEVER control lever position degree : 110.0 Start interlock tolerance degree : +- 4.0 Rated speed rpm : > Rated speed rpm : < RATED SPEED 9.10 rack travel mm Rated speed rpm : 1455 Check Tolerance 1/min : +speed 1/min :> Check rack travel mm 4.00 speed 1/min : < 1555 Rated speed rpm Tolerance 1/min : +- 15 FUEL DELIVERY CHARACTERISTICS 0.50 rack travel mm : +- 0.50 Tolerance mm Rated speed rpm : 1670 Aneroid pressure Rated speed rpm Del. quantity cm3/1000 strokes : 50.5

63.0

100

300

9.00

10.15

400

11.25

100

240

80

260

400

olerance m3/1000 strokes	: ← 1.5
Check tolerance cm3/1000s.	: +- 4.0
Aneroid pressure	•
Rated speed rpm	: 630
Del. quantity cm3/1000 strokes	: 51.0
Tolerance cm3/1000 strokes	; +- 2.0
Check tolerance cm3/1000s.	: +- 4.5
Anapoid apagous	
Aneroid pressure nPa	* ***
Rated speed rpm Del. quantity	: 925
cm3/1000 strokes	: 57.5
m3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: +- 4.5
Rated speed rpm rack travel mm rolerance mm pel. quantity cm3/1000 strokes rolerance cm3/1000 strokes check tolerance cm3/1000s.	: 100 : 14.80 : +- 0.20 : 83.0 : +- 5.0 : +- 8.0
OW IDLE	
Rack travel in mm Tolerance mm	: 9.00 : + 0.10
End of test specif	fication sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07,05,97 Edition Test oil : ISO 4113

Combination No. : F 002 AOZ 050

Injection pump

Pump designation : PES6A95D32D/3RS2916 EP type number : F 002 A10 010

Governor

Governmen design. : RSV475...1050A00930R

Governer no. : F 002 A20 236

Cust. part No. : 328 3917

Customer-spec. information : CUMMINS Customer Motor : 6BT

Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

: 2 417 413 093 Overflow valve

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : **←** 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 : + 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-50-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : +- 0.10

Check

tolerance °NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.25 Tolerance mm : \leftarrow 0.05

H12

+	Aneroid pressure
Del. quantity cm3/1000 strokes : 98.2	hPa : 900 Del. quantity
Tolerance	cm3/1000 strokes : 98.2 Tolerance
cm3/1000 strokes : + 1.0	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000s. : +- 3.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 4.0 Check tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	CONTROL LEVER
	control lever
Rated speed rpm : 475	position degree : 100.0 tolerance degree : +- 4.0
Rack travel in mm: 5.05	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 10.25
Del. quantity + cm3/1000 strokes : 18.5 +	Rated speed rpm : 1115 Tolerance 1/min : +- 5
Tolerance	
cm3/1000 strokes : + 2.0	rack travel mm : 4.50
Check tolerance cm3/1000s. : 4- 4.5	Rated speed rpm : 1170 Tolerance 1/min : +- 5
Spreed	TOCCI GIRCE THAT I
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 6.0 + Check tolerance	Tolerance mm : +- 0.55 Rated speed rpm : 1275
cm3/1000s. : 8.0	Rated speed (pill : 12/)
+	rack travel mm : 4.50
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1170 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION +	LOW IDLE
control lever	control lever
position degree : FREE	position degree : 82.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50	Control lever difference
Tolerance mm : + 0.20	Grad : 18.0
governor spring +	tolerance degree : +- 6.0
pre-tension +	Setting point w/out bumper spring
click setting x : 2.75	
<u> </u>	Rated speed rpm : 475 rack travel mm : 4.55
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
Rated speed rpm : 1050	Rated speed rpm : 100

CRT mm min. Testing:	: > 19,00	Tolerance + cm3/1000 strokes : +- 2.0 + Check tolerance + cm3/1000s. : +- 4.0
Rated speed rpm rack travel mm Tolerance mm	: 5.05 : +- 0.10	Aneroid pressure hPa : - Rated speed rpm : 650
rack travel mm Rated speed rpm Tolerance 1/min	: 550	Del. quantity cm3/1000 strokes : 82.9 Tolerance cm3/1000 strokes : +- 1.0
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 11.25	
Rated speed rpm rack travel mm Tolerance mm	: 800	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50
ANERGID/ALTITUDE COMPENSATOR TEST		Del. quantity cm3/1000 strckes : 121.5 Tolerance cm3/1000 strokes : +- 10.0
SETTING		+ Check tolerance + cm3/1000S. : +- 15.0
Rated speed rpm Pressure hPa	: 650 : 900	T
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: - 10.00	LOW IDLE Rated speed rpm: 475 Rack travel in mm: 5.05 Tolerance mm: +- 0.10
Rated speed rpm	: 650	+ Del. quantity + cm3/1000 strokes : 18.5
Pressure hPa rack travel mm Tolerance mm	: 650 : 11.65 : +- 0.20	+ Tolerance + cm3/1000 strokes : +- 2.0 + Check tolerance + cm3/1000s. : +- 4.5 + Spreed
Pressure hPa rack travel mm Tolerance mm	: 400 : 10.70 : +- 0.20	Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 8.0
FUEL DELIVERY CH	ARACTERISTICS	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 900 : 800	End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19,05,97 Test oil : ISO 4113

Combination No. : 0 402 076 728

Injection pump

Pump designation : PES6P120A720RS3203 EP type number : 0 412 026 728

Governor

Governer design. : RSV425...1050P2A489

: -2

: 0 421 833 291 Governer no.

Cust. part No. : RE32888

Customer-spec. information

Customer : DEERE

: 6076 HRW01 Motor Power KW : 175.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.60 Tolerance mm : +- 0.03

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +~ 0.30

Check

tolerance °NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : 10.50

Tolerance : +~ 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

1050 Rated speed rpm :

Rack travel in mm : 12.45

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 167.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Tolerance cm3/1000 strokes : + 1.0	cm3/1000s. : +- 3.5 Spreed
Check tolerance cm3/1000s. : + 3.5	Tolerance cm3/1000 strokes : 4.0 Check tolerance
Spreed	cm3/1000s. : 6.5
†	
Tolerance cm3/1000 strokes : 4.0	CONTROL LEVER
Check tolerance cm3/1000s. : 6.5	<pre>control lever position degree : 94.0 tolerance degree : +- 4.0</pre>
	toterance degree : +- 4.0
†	DATES CORES
<u> </u>	RATED SPEED
Rated speed rpm : 425	rack travel mm : 11.40
+	Rated speed rpm : 1095
Rack travel in mm: 5.10	Tolerance 1/min : +- 5
Tolerance mm : + 0.10 +	
Del. quantity +	rack travel mm : 4.00
cm3/1000 strokes : 34.0 +	Rated speed rpm : 1165
Tolerance +	Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.5 +	
Check tolerance	rack travel mm : 0.85
cm3/1000s. : +- 5.0	Tolerance mm : +- 0.55
Spreed	Rated speed rpm : 1250
Tolerance	, ,
cm3/1000 strokes : 6.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1165
cm3/1000s. : 8.0	
1	
+	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
†	
	control lever
GUIDE SLEEVE POSITION	position degree : 74.0
	tolerance degree : +- 4.0
1	
control lever	Setting point w/out bumper spring
position degree : - 3	
Rated speed rpm : 800	Rated speed rpm : 425
The second secon	rack travel mm : 5.60
Rack travel in mm: 0.50	Tolerance mm : +- 0.10
Tolerance mm : + 0.20	rocci di loc limir
Total and the state of the stat	Rated speed rpm : 100
	The state of the s
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 19.00
Rated speed rpm : 1050 + Aneroid pressure	Testing:
hPa : 1200 +	Rated speed rpm : 425
Del. quantity +	rack travel mm : 5.10
cm3/1000 strokes : 167.0	Tolerance mm : +- 0.10

rack travel mm Rated speed rpm Tolerance 1/min	: 640	+ Tolerance + cm3/1000 strokes : + 2.5 Check tolerance - cm3/1000s. : + 5.0
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 12.45 : + 0.05 : 600 : 13.70	Aneroid pressure hPa : - Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		- + cm3/1000s. : +- 5.0
SETTING		STARTING FUEL DELIVERY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1200 : 13.70 : +- 0.10 : 500 : - : 12.20	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 15.0
MEASUREMENT		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 815 : 13.10 : +- 0.20 : 725 : 12.55	LOW IDLE Pated speed rpm : 425 Rack travel in mm : 5.10 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 34.0 Tolerance cm3/1000 strokes : +- 2.5 Check tolerance
Start interlock		- cm3/1000s. : + 5.0 - Spreed
Rated speed rpm Check speed 1/min	: > 100 : > 80	Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 8.0
FUEL DELIVERY CHA	ARACTERISTICS	-
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1200 : 600	End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 26.02.96

Test oil

: ISO 4113

Combination No.

: 0 402 196 707

Injection pump

Pump designation : PES6P120A720RS3354

EP type number

: 0 412 026 781

Governor

Governer design. : RE30

Governer no.

: 0 421 890 029

Cust. part No.

: RE 62645

Customer-spec. information

Customer : DEERE

Motor

: 6081HF001

Power KW

: 203.0

TEST BENCH REQUIREMENTS

Inlet line

: 4.2

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve

: 2 417 413 077

Inlet press. bar :

2.0

Tolerance bar : +-

0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

Test Lines

: 1 680 750 015

Outside diameter :

6.0

H18

x inside diameter: 3.0

x length mm :

600

REMARKS

Pump-specific values

in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Firing order : 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

: -300

Start of delivery mark

*NW after s.o.d. :

Tolerance

9.00

: + - 0.50

Check

tolerance 'NW

: + - 0.75

Barrel no.

: 1

Beginning of delivery differende

and maximum rack

travel

15.00

Tolerance mm

: +- 0.50

Difference ° CS :

2.50

(B) POSITIONER TESTING

Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR

POSITION

	+ Engine speed min-1: 60
Engine speed min-1: 0	Amplitude V : 1.4 Tolerance V : +/- 0.6
Setting point	+ Tolerance V : +/- 0.6 + Check
(P, R and H pump)	tolerance V : +/- 1.20
Uact V : 3.100	T Engine speed min-1: 600
CRT mm : 13.00	Difference
Tolerance mm : +/- 0.05	Amplitude to
Check : +/- 0.10	+ Amplitude V : max.1.4
	+
Check value (P, R and H pump)	(C) INJECTION PUMP WITH POSITIONER
4.700	TEST POINT V1
Uact V : 1.700 : 6.15	+ - Rated speed rpm : 1100
Tolerance mm : +/- 0.25	+ Jact V : 2.880
Check	Del. quantity
tolerance mm : +/- 0.30	cm3/1000 strokes : 140.0
•	Tolerance
Setting point	cm3/1000 strokes : +- 1.0 Check tolerance
(M grung)	cm3/100Gs. : +- 3.0
	+ Spreed
Uact V : 3.100	Tolerance 5 2
CRT mm : 12.50 Tolerance mm : +/- 0.05	cm3/1000 strokes : 5.0 Check tolerance
Check	+ cm3/100Cs. : 9.0
3110011	
tolerance mm : +/- 0.10	FUEL DELIVERY CHARACTERISTICS
	FUEL DELIVERY CHARACTERISTICS
Check value	
	Rated speed rpm : 700
Check value	
Check value (M pump) Uact V : 1.700 CRT mm : 5.50	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position Uact V : Value with	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position.	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position. CRT mm : 0.75	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position. CRT mm : 0.75 Tolerance mm : +/- 0.25	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Rated speed rpm : 425
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position. CRT mm : 0.75 Tolerance mm : +/- 0.25 Check	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Rated speed rpm : 425 Uact V : 1.610
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position. CRT mm : 0.75 Tolerance mm : +/- 0.25	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Rated speed rpm : 425
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position. CRT mm : 0.75 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.35	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Rated speed rpm : 425 Uact V : 1.610 Del. quantity cm3/1000 strokes : 22.0 Tolerance
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position. CRT mm : 0.75 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.35 ENGINE-SPEED SENSOR	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Rated speed rpm : 425 Uact V : 1.610 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : 425 Uact V : 1.610 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : +- 3.0
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position. CRT mm : 0.75 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.35 ENGINE-SPEED SENSOR (All P and R pumps not	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Rated speed rpm : 425 Uact V : 1.610 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : 425 Uact V : 1.610 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position. CRT mm : 0.75 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.35 ENGINE-SPEED SENSOR	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Rated speed rpm : 425 Uact V : 1.610 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position Uact V : Value with	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Rated speed rpm : 425 Uact V : 1.610 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance
Check value (M pump) Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position. CRT mm : 0.75 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.35 ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)	Rated speed rpm : 700 Uact V : 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Rated speed rpm : 425 Uact V : 1.610 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed

Check tolerance

cm3/1000s. : 10.0

TEST POINT L1

Rated speed rpm : 425Uact V : 1.610Tolerance Volt : +0.060

Check tolerance

Volt : + 0.060

STARTING FUEL DELIVERY

Rated speed rpm : 100 Uact V : 4.600

Del. quantity

cm3/1000 strokes : 105.0

Toterance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 13.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.03.96 Test oil : ISO 4113

Combination No. : 0 402 196 709

Injection pump

Pump designation : PES6P120A720RS3354

EP type number : 0 412 026 781

Governor

Governer design. : RE30

Governer no.

Cust, part No. : RE 67771

Customer-spec, information Customer : DEERE Motor : 6081HRW06

: 149.0 Power KN

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.60
Tolerance mm : +- 0.05 Check tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

Start of delivery mark

*NW after s.o.d. : 8.50 Tolerance : \leftarrow 0.50 Check

tolerance *NW : +- 0.75

: 1 Barrel no.

Beginning of delivery differende

and maximum rack

: 15.00 travel Tolerance mm : +- 0.50 Difference ° CS : 2.50

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 VTESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: Setting point (P, R and H pump) Uact V 3.100 CRT mm 13.00 Toterance mo : +/- 0.05 Check : +/- 0.10 tolerance mm Check value (P, R and H pump) 1.700 Uact V CRT mm 6.15 Tolerance mm : +/- 0.25 Check : +/- 0.30 tolerance mm Setting point (amua M) Uact V 3.100 CRT mm 12.50 : +/- 0.05 Tolerance mm Check tolerance mm : +/- 0.10 Check value (amuq M) Uact V 1.700 CRT mm 5.50 Tolerance mm : +/- 0.25 Check : +/- 0.30 tolerance mm Stop position : Value with Uact V deenergised adjusting magnet and control rod in stop position. 0.75 CRT mm

: +/- 0.25

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps) Test with control rod in stop position Engine speed min-1: Amplitude V 1.4 : +/- 0.6 Tolerance V Check tolerance V : +/- 1.20 Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4 (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 Rated speed rpm 1100 . Uact V 2.880 Del. quantity cm3/1000 strokes : 140.0 Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 9.0 FUEL DELIVERY CHARACTERISTICS Rated speed rpm 700 Uact V 2.880 Del. quantity cm3/1000 strokes : 141.5 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0 425 Rated speed rpm Uact V 1.610

tolerance mm : ± -0.35

Check

Tolerance mm

Del. quantity cm3/1000 strokes	:	22.0
Tolerance cm3/1000 strokes	; +-	3.0
Check tolerance cm3/1000s.	: +-	6.0
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	6.0
cm3/1000s.	:	10.0

TEST POINT L1

Rated speed rpm : 425
Uact V : 1.610
Tolerance Volt : + 0.060
Check tolerance
Volt : + 0.060

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact y : 4.600
Del. quantity
cm3/1000 strokes : 105.0
Tolerance
cm3/1000 strokes : +- 10.0
Check tolerance

cm3/1000s. : +- 13.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 14.05.97 Test oil : ISO 4113 Combination No. : 9 400 030 732 Injection pump Pump designation : PES6A95D32D/3RS2881 EP type number : 9 410 037 215 Governor Governer design. : RSV475...1250AOC845R Governer no. : 9 420 034 711 Cust. part No. : 3929407 Customer-spec. information Customer : CDC Motor : 6BT Power KW : 97.0 TEST BENCH REQUIREMENTS Inlet line : 3.2 Test oil inlet temp. °C 40 Tolerance °C Overflow valve : 2 417 413 093 Inlet press. bar : 2.0 Tolerance bar : + 0.1 Test nozzle holde : 1 688 901 101 assembly Opening pressure : 208.5 bar Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x length mm : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar: 17.0 Tolerance bar : +- 1.0 Prestroke mm : 2.85
Tolerance mm : + 0.05 Check tolerance mm : ÷- 0.10 Rack travel in mm : 10.50 Tolerance mm : + 1.50 Firing order : 1-- 5- 3- 6- 2-: 4 Phasing : 0-60-120-180-240 Start of delivery blocking *NW after s.o.d. : 7.00 : +- 0.50 Tolerance Check tolerance °NW : + 0.75 Barrel no. : 1 BASIC SETTING Rated speed rpm : 1250 Rack travel in mm: 10.95 Tolerance mm : +- 0.05

x inside diameter: 2.0

+	Aneroid pressure
Del. quantity	hPa : -
cm3/1000 strokes : 91.0	Del. quantity
<u> </u>	cm3/1000 strokes : 91.0
Tolerance	Tolerance
cm3/1000 strokes : +- 1.0 +	cm3/1000 strokes : +- 1.0
	Check tolerance
Check tolerance	cm3/1000s. : +- 3.0
cm3/1000s. : +- 3.0	Spreed
Canad	Tolerance cm3/1000 strokes : 3.5
Spreed	cm3/1000 strokes : 3.5 Check tolerance
Tolerance	cm3/1000s. : 6.0
cm3/1000 strokes : 3.5	ting/10003, . 0.0
tills/ 1000 set okes : 5:5	
Check tolerance	
cm3/1000s. : 6.0	CONTROL LEVER
	control lever
+	position degree : 117.0
Rated speed rpm : 475	tolerance degree : + 4.0
+	•
Rack travel in mm: 5.10 +	RATED SPEED
Tolerance mm : +- 0.10 +	rack travel mm : 9.90
Del. quantity +	Rated speed rpm : 1315
cm3/1000 strokes : 18.5 +	Tolerance 1/min : +- 5
Tolerance +	
cm3/1000 strokes : +- 2.0 +	rack travel mm : 5.50
Check tolerance +	Rated speed rpm : 1370
cm3/1900s. : +- 4.5	Tolerance 1/min : +- 5
Spreed	0.05
Tolerance +	rack travel mm : 0.85
cm3/1000 strokes : 3.5	Tolerance mm : + 0.55
Check tolerance + cm3/1000s. : 5.5 +	Rated speed rpm : 1500
cm3/1000s. : 5.5	rack travel mm : 5.50
T	
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1370 Tolerance 1/min : +- 15
WITH GOVERNOR	roterance min . ** 13
WITH GOVERNOR	
GUIDE SLEEVE POSITION	LOW IDLE
+	
4	
control lever +	control lever
position degree : - 3	position degree : 91.0
Rated speed rpm : 800 +	tolerance degree : +- 4.0
+	
Rack travel in mm: 0.50 +	Control lever difference
Tolerance mm : + 0.20 +	Grad : 26.0
. +	tolerance degree : +- 4.0
governor spring	
pre-tension +	Setting point w/out bumper spring
click setting x : 5.00 +	Detect area of the 175
<u> </u>	Rated speed rpm : 475
FILL LOAD DELTHERY AT FULL LOAD STOD	rack travel mm : 4.60 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm : 1250	Rated speed rpm : 100
Rated speed rpm : 1250 +	nateu specu i pili . Tuu

CRT mm min. :> 19.00Testing: : 475 Rated speed rpm rack travel mm : 5.10 : **←** 0.10 Tolerance mm TORQUE CONTROL Rated speed rpm : 1250 rack travel mm : 10.95 : +- 0.05 Tolerance mm Rated speed rpm : 800 : 11.30 rack travel mm : +- 0.10 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 800 Pressure hPa MEASUREMENT rack travel mm :
Tolerance == 800 10.80 Tolerance mm : +- 0.30 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 800 Rated speed rpm : Del. quantity cm3/1000 strokes : 97.0 Tolerence cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s.STARTING FUEL DELIVERY 100 Rated speed rpm 20.50 rack travel mm : **+** 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 120.5

Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 15.0

Rated speed rpm : 475

LOW IDLE

Rack travel in mm : 5.10 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0Check tolerance : +cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S.5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.05.97 Test oil : ISO 4113

Combination No. : 9 400 030 740

Injection pump

Pump designation : PES6A95D320/3RS2881 EP type number : 9 410 037 215

Governor

Governer design. : RSV425...1200A0C853R

Governer no. : 9 420 034 719

Cust. part No. : 3929410

Customer-spec. information Customer : CDC Motor : 6BT Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 11.05

Tolerance mm : +- 0.05	- Rated speed rpm : 1200 - Aneroid pressure
Del. quantity cm3/1000 strokes : 93.0	- hPa : - - Del. quantity
Tolerance cm3/1000 strokes : +- 1.0	- cm3/1000 strokes : 93.0 - Tolerance - cm3/1000 strokes : +- 1.0
Check tolerance	- Check tolerance - cm3/1000s. : +- 3.0
cm3/1000s. : + 3.0	- Spreed - Tolerance
Spreed	- cm3/1000 strokes : 3.5 - Check tolerance
Tolerance cm3/1000 strokes : 3.5	- cm3/1000s. : 6.0 - -
Check tolerance cm3/1000s. : 6.0	- CONTROL LEVER
	- control lever - position degree : 115.0
Rated speed rpm : 425	- tolerance degree : +- 4.0
Rack travel in mm : 5.20 Tolerance mm : + 0.10	- RATED SPEED - rack travel mm : 10.00
Del. quantity cm3/1000 strokes : 18.5 Tolerance	- Rated speed rpm : 1275 - Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0 Check tolerance	- rack travel mm : 6.10 - Rated spaed rpm : 1335
cm3/1000S. : + 4.5	- Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : 3.5	rack travel mm : 0.85 Tolerance mm : + 0.55
Check tolerance cm3/1000S. : 5.5	- Rated speed rpm : 1425
(B) SETTING OF INJECTION PUMP	- rack travel mm : 6.10 - Rated speed rpm : 1335 - Tolerance 1/min : +- 15
WITH GOVERNOR	- - -
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 88.0 tolerance degree : +- 4.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	- Control lever difference - Grad : 27.0 - tolerance degree : +- 6.0
governor spring pre-tension click setting x : 4.00	- Setting point w/out bumper spring
	- Rated speed rpm : 425 - rack travel mm : 4.70
FULL LOAD DELIVERY AT FULL LOAD STOP	- Tolerance mm : +- 0.10

Rated speed rpm : 100 CRT mm min. : > 19.00Testing: Rated speed rpm 425 rack travel mm : 5.20 : + 0.10Tolerance mm TORQUE CONTROL 1200 Rated speed rpm : 11.05 rack travel mm : : +- 0.05 Tolerance mm Rated speed rpm : 800 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 800 Pressure hPa **MEASUREMENT** Pressure hPa 008 10.55 rack travel mm : STARTING FUEL DELIVERY Rated speed rom : 100 20.50 rack travel mm : - 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 120.5 Tolerance cm3/1000 strokes : + 10.0Check tolerance cm3/1000s. : + 15.0

Tolerance cm3/1000 strokes Check tolerance	: +-	2.0
cm3/1000s.	: +-	4.5
Tolerance cm3/1000 strokes Check tolerance	:	3.5
cm3/1000s.	:	5.5

End of test specification sheet

LOW IDLE

Rated speed rpm : 425

Rack travel in mm : 5.20 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 18.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 14.05.97

Test oil

: ISO 4113

Combination No. : F 002 A0Z 028

Injection pump

Pump designation : PES6A95D32D/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV450...1100A0C905R

Governer no. : F 002 A20 219

Cust. part No. : 3931398

Customer-spec. information

Customer : CDC

Motor

: 6BT

Power KW

: 72.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar

: +- 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance min

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing **:** 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 7.00

Tolerance

: **←** 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 8.95

J02

Tolerance mm	: +- 0.05 +	Rated speed rpm	: 1100
Del. quantity		Aneroid pressure hPa	: -
cm3/1000 strokes	: 68.0	Del. quantity	
Tolerance	 ‡	cm3/1000 strokes Tolerance	: 68.0
cm3/1000 strokes	: + 1.0	cm3/1000 strokes Check tolerance	: +- 1.0
Check tolerance	<u> </u>	cm3/1000s.	: +- 3.0
cm3/1000s.	: +- 3.0	Spreed Tolerance	
Spreed		cm3/1000 strokes	: 3.5
Tolerance	‡	Check tolerance cm3/1000s.	: 6.0
cm3/1000 strokes	: 3.5		. 0.0
Check tolerance			
cm3/1000s.	: 6.0	CONTROL LEVER	
	Ţ	control lever	
	+	position degree	
Rated speed rpm	: 450	tolerance degree	: +- 4.0
Rack travel in mm	: 5.50	RATED SPEED	
	: + 0.10	rask travel mm	; 7.90
Del. quantity		Rated speed rpm	
cm3/1000 strokes	: 18.0	Tolerance 1/min	
Tolerance	+		
	: +- 2.0 +	rack travel mm	: 5.20
Check tolerance	1	Rated speed rpm	
cm3/1000s.	: + 4.5	Tolerance 1/min	
Spreed	 		
Tolerance	+	rack travel mm	: 0.85
cm3/1000 strokes	: 3.5	Tolerance mm	: +- 0.55
Check tolerance	+	Rated speed rpm	: 1500
cm3/1000s.	: 5.5		
	+	rack travel mm	: 5.20
		Rated speed rpm	: 1230
(B) SETTING OF INJ	ECTION PUMP	Tolerance 1/min	: +- 15
WITH GOVERNOR	†		
	Ţ		
GUIDE SLEEVE POSIT	TON	LOW IDLE	
COTAL OFFICE LOSTI	1	MA TAPP	
	+		
control lever	+	control lever	
	: - 3	position degree	
Rated speed rpm	: 800 +	tolerance degree	: +- 4.0
	+		
Rack travel in mm		Control lever dia	
Tolerance mm	: ← 0.20 +	Grad	: 19.0
	†	tolerance degree	: - 6.0
governor spring	†	Codesina maint/-	are kriman analis
pre-tension		Setting point w/c	out bumper spring
click setting x	: 4.00	Dated speed non	: 450
	<u> </u>	Rated speed rpm rack travel mm	
FULL LOAD DELIVERY	AT FULL LOAD STOP	Tolerance mm	: +- 0.10
FULL LUMD DELIVERT	AT FULL LOAD STOP	TOTEL WILLE WILL	0.10
	T		

100 Rated speed rpm : CRT mm min. : > 19.00 Testing: 450 Rated speed rom rack travel mm 5.50 Tolerance mm : +- 0.10 TORQUE CONTROL 1100 Rated speed rpm 8.95 rack travel mm Tolerance mm : +- 0.05 Rated speed rpm : 850 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 800 : Pressure hPa MEASUREMENT 208 Pressure hPa 8.45 rack travel mm Tolerance mm : +- 0.30 STARTING FUEL DELIVERY Pated speed rpm 100 rack travel mm 20.50 Tolerance mm : +- **0.**50 Del. quantity cm3/1000 strokes : 120.5 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 450

5.50

Del. quantity 18.0 cm3/1000 strokes : Tolerance 2.0 cm3/1000 strokes : +-Check tolerance cm3/1000s. : +-4.5 Spreed Tolerance 3.5 cm3/1000 strokes : Check tolerance cm3/1000s. 5.5

End of test specification sheet

Rack travel in mm :

Tolerance mm : \leftarrow 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.05.97 Test oil : ISO 4113

Combination No. : 0 400 074 885

Injection pump

Pump designation : PES4M55C32ORS167 EP type number : 0 410 054 960

Governor

Governer design: : RSF400/2000M56-14 Governer no: : 0 420 021 271

Cust. part No. :

Customer-spec. information

Customer : DPICO

Motor : 0M601-2.31 (Exp)

Power KW : 58.0

TEST BENCH REQUIREMENTS

Test cil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 15.50 Tolerance : + 0.20

Check

tolerance *NW : +- 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 38.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 1.5

Spreed

Tolerance

cm3/1000 strokes : 2.5

Check tolerance 3.0 cm3/1000s. SET IDLE CONTROL LEVER POSITION Rated speed rpm : 400 Rated speed rpm : 1000 Rack travel in mm : 5.00 : +- 0.10 Tolerance mm 1.45 CRT mm max. : Del. quantity cm3/1000 strokes : 6.5 Tolerance LOW IDLE cm3/1000 strokes : +-0.5Spreed Tolerance control lever cm3/1000 strokes : 1.0 position degree : 14.0 tolerance degree : +- 2.0 (B) SETTING OF INJECTION PUMP Setting point w/out bumper spring WITH GOVERNOR Rated speed rpm : 400 5.00 rack travel mm IDLE STAGE SET IDLE AUXILIARY SPRING Rated speed rpm : 500 rack travel mm Rack travel in mm: 6.25 3.40 : Tolerance mm: + 0.25 : +- 0.10 Tolerance mm Load pick-up FULL LOAD DELIVERY AT FULL LOAD STOP 250 Rated speed rpm 12.50 Rated speed rpm 1000 rack travel mm : Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 1000 Del. quantity CRT mm max. cm3/1000 strokes : 38.5 1.45 : Tolerance : cm3/1000 strokes : + 0.55.00 rack travel mm Check tolerance Rated speed rpm : 400 : +-1.5 cm3/1000s. Spreed Tolerance cm3/1000 strokes : 2.5 TORQUE CONTROL Check tolerance cm3/1000s. 3.0 Rated speed rpm : 1000 : rack travel mm 12.15 Tolerance mm : +- 0.05 RATED SPEED : 1800 Rated speed rpm rack travel mm 11.90 control lever Tolerance mm : +- 0.10 50.0 position degree : Rated speed rpm : 2000 11.80 2250 rack travel mm Rated speed rpm : : + 0.10rack travel mm 7.40 Tolerance mm Tolerance mm : +- 0.25 : 2550 ADJUSTMENT TEST ADA/ALDA Rated speed rpm rack travel mm : 0.50 Tolerance mm : +- 0.50 SETTING

Rated speed rpm : 1000

Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm	: -0.10 : +- 0.10 : 1000 : 900 : -0.40 : +- 0.10 : 750 : -1.50	rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 2.0 : +- 3.0 : 2.5 : 3.0
		+ Rated speed rpm + rack travel mm	
		Tolerance min	
FUEL DELIVERY CHA	ARACTERISTICS	Del. quantity	
Ref. pressure		cm3/1000 strokes Tolerance	: 59.0
ALDA / ADA hPa	: 1100	cm3/1000 strokes	: +- 4.0
Rated speed rpm	: 1800	+ Check tolerance	
Del. quantity		- cm3/1000s.	: +- 5.0
cm3/1000 strokes Tolerance	: 40.8	+ Spreed + Tolerance	
cm3/1000 strokes	: +- 0.8	cm3/1000 strokes	: 6.0
Check tolerance		+ Check tolerance	
cm3/1000s.	: + 1.8	+ cm3/1000s.	: 6.0
Spreed Tolerance		Ī	
cm3/1000 strokes	: 2.5	1	
Check tolerance			
cm3/1000s.	: 3.0	+ TOM IDE	
Ref. pressure		Rated speed rpm	: 400
ALDA / ADA hPa		+ Del. quantity	
Rated speed rpm	: 2000	+ cm3/1000 strokes	: 7.8
Spreed Del. quantity		+ Check tolerance + cm3/1000s.	: +- 2.3
cm3/1000 strokes	: 41.0	Spreed	2.3
Tolerance		+ Check tolerance	
cm3/1000 strokes		+ cm3/1000s.	: 1.5
Check tolerance cm3/1000s.	: +- 2.0	Ī	
Spreed			
Tolerance		+	
cm3/1000 strokes		†	
Check tolerance cm3/1000s.		t control lever	
5m5/ 100001		position degree	: > 47.00
		+	
HIGH IDLE		control lever position degree	: < 44.50
Ref. pressure		+	
ALDA / ADA hPa		+	
Rated speed rpm	: 2250	+	

SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

control lever

position degree : 14.0 tolerance degree : +- 2.0

Rated speed rpm : 425

Rack travel in mm: 9.10
Tolerance mm: + 0.80
Del. quantity
cm3/1000 strokes: 23.5

Tolerance

cm3/1000 strokes : +- 3.5

Check tolerance

 $\frac{3}{1000}$: + 4.5 Vacuum hPa : 400.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 400 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.05.97 Edition Test oil : 16.05.97

Combination No. : 0 400 075 918

Injection pump

Pump designation : PES5M55C32ORS191 EP type number : 0 410 055 951

Governor

Governer design. : RSF385/2000M88 Governer no. : 0 420 021 293

Cust. part No. :

Customer-spec. information

Customer : DPICO

Motor : OM662-D29LA

: 88.0 Power KW

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

: 148.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Prestroke mm : 1.75 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00 Tolerance mm : +- 1.00

Firing order : 1-2-4-5-3

: 0-72-144-216-288 Phasing

Start of delivery blocking

*NW after s.o.d. : 16.50 Tolerance : + 0.20Check

tolerance °NW : +- 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.75 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 53.1

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

: + 1.5 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 2.5

Check tolerance 3.0 cm3/1000s. SET IDLE CONTROL LEVER POSITION Rated speed rpm : 385 Rated speed rpm : 1000 Rack travel in mm: 5.70 Tolerance mm : +- 0.10 CRT mm max. : 1.85 Del. quantity cm3/1000 strokes : 8.5 LOW IDLE Tolerance cm3/1000 strokes : \leftarrow 0.5 Spreed control lever Tolerance 1.0 position degree : 11.0 cm3/1000 strokes : Setting point w/out bumper spring Rated speed rpm : 385 (B) SETTING OF INJECTION PUMP WITH GOVERNOR rack travel mm : SET IDLE AUXILIARY SPRING IDLE STAGE 500 Rated speed rpm : rack travel mm : 3.90 : + 0.10 5.50 Tolerance mm Rack travel in mm : Tolerance mm : \leftarrow 0.10 Load pick-up FULL LOAD DELIVERY AT FULL LOAD STOP 200 Rated speed rpm : 12.50 rack travel mm : Rated speed rpm : 1000 Rated speed rpm : 1000 Ref. pressure ALDA / ADA hPa : 1600 CRT mm max. : 1.85 Del. quantity cm3/1000 strokes : 53.1 5.70 rack travel mm : Tolerance 385 Rated speed rpm : cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. Spreed TORQUE CONTROL Tolerance cm3/1000 strokes : 2.5 Rated speed rpm : 1000 Check tolerance cm3/1000s. 3.0 rack travel mm : 13.75 Tolerance mm : +- 0.05 Rated speed rpm : 1700 RATED SPEED rack travel mm : 13.45 Tolerance mm : +- 0.10 control lever : 2000 position degree : 50.0 Rated speed rpm rack travel mm : 12.95 : ← 0.10 Tolerance mm Rated speed rpm : 2250 rack travel mm 8.75 Rated speed rpm : 1000 : + 0.20 Tolerance mm 11.80 rack travel mm : Tolerance mm : + 0.10 Rated speed rpm : 2600 0.50 rack travel mm : : +- 0.60 Tolerance mm ADJUSTMENT TEST ADA/ALDA

SETTING		+ Del. quantity
Rated speed rpm	: 1000	+ cm3/1000 strokes : 43.2 + Tolerance
Ref. pressure		+ cm3/1000 strokes : +- 0.5
ALDA / ADA hPa rack travel mm		+ Check tolerance + cm3/1000s. : +- 1.5
Tolerance mm	: + 0.20	+ Spreed
MEACHDEMENT		Tolerance
MEASUREMENT		+ cm3/1000 strokes : 2.5 + Check tolerance
Rated speed rpm	: 1000	+ cm3/1000s. : 3.0
Ref. pressure ALDA / ADA hPa	: 1100	Ref. pressure
rack travel mm	: 1.95	+ ALDA / ADA hPa : 1100
Tolerance mm	: +- 0.10	Rated speed rpm : 1000 Del. quantity
Ref. pressure		+ cm3/1000 strokes : 43.2
ALDA / ADA hPa rack travel mm	: 750 : 3.90	+ Tolerance + cm3/1000 strokes : + 0.5
Tolerance mm	: +- 0.20	+ cm3/1000 strokes : + 0.5 + Check tolerance
		+ cm3/1000s. : +- 1.5
		+ Spreed + Tolerance
FUEL DELIVERY CHA	RACTERISTICS	+ cm3/1000 strokes : 2.5
Def managemen		+ Check tolerance + cm3/1000s. : 3.0
Ref. pressure ALDA / ADA hPa	: 1600	cm3/1000s. : 3.0
Rated speed rpm		+
Del. quantity cm3/1000 strokes	• 53.8	+ HIGH IDLE
Tolerance		+
cm3/1000 strokes	: ← 0.8	+ Ref. pressure
Check tolerance cm3/1000s.	: +- 1.8	+ ALDA / ADA hPa : 1600 + Rated speed rpm : 2250
Spreed		+ rack travel mm : 8.75
Tolerance cm3/1000 strokes	: 2.5	+ Tolerance mm, : +- 0.20 + Del. quantity
Check tolerance		cm3/1000 strokes : 32.9
cm3/1000s.	: 3.0	Tolerance cm3/1000 strokes : +- 2.0
Ref. pressure		Check tolerance
ALDA / ADA hPa		- cm3/1000s. : +- 3.0
Rated speed rom Spreed	: 2000	+ Spreed + Tolerance
Del. quantity		+ cm3/1000 strokes : 2.5
cm3/1000 strokes Tolerance	: 52.1	+ Check tolerance + cm3/1000s. : 3.0
cm3/1000 strokes	: +- 1.0	T CINS/10003
Theck tolerance		STADITALS FUEL DEL TUEDV
cm3/1000s. წელeed	: + 2.0	+ STARTING FUEL DELIVERY
Tolerance		Rated speed rpm : 100
cm3/1000 strokes Check tolerance	: 2.5	rack travel mm : 21.50 Tolerance mm : +- 1.50
cm3/1000s.	: 3.0	→ Del. quantity
		+ cm3/1000 strokes : 59.8
Ref. pressure ALDA / ADA hPa	: 1100	+ Tolerance + cm3/1000 strokes : +- 4.0
Rated speed rpm		+ Check tolerance
		+ cm3/1000s. : + 5.0

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 6.0

LOW IDLE

Rated speed rpm : 385

Del. quantity

9.5 cm3/1000 strokes :

Check tolerance

cm3/1000s. 2.3

Spreed

Check tolerance

cm3/1000s. 1.5

control lever

position degree : > 45.00

control lever

position degree : < 42.50

SETTING PNEUMATIC FAST IDLE (PLA)

(PLA) POSITION

control lever

11.0 position degree :

Rated speed rpm : 400

Rack travel in mm: 8.85 0.80

Tolerance mm

Del. quantity

25.3

cm3/1000 strokes :

Tolerance cm3/1000 strokes : \leftarrow 4.0

Check tolerance

cm3/1000s. 5.0

Vacuum hPa 400.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm 385

Vacuum hPa -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.05.97 Test oil : ISO 4113

Combination No. : 0 402 046 862

Injection pump

Pump designation : PES6P12OA32ORS3337 EP type number : 0 412 026 770

Governor

Governer design. : RQV300...1250PA1149K

Governer no. : 0 421 815 416

Cust. part No. : CCEP 5141A 66-218

Customer-spec. information

Customer : RENAULT V.I.

Motor : MIDR 06-02-26 V4

Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.10 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : -0.18

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

mm : 21.00

and maximum rack

travel : 10.50

Difference ° CS : 2.00

CRT ZERO POSITION

	+ Tolerance mm : +- 0.20
Pool topyol to my 11 20	Poted speed speed speed
Rack travel in mm : 11.20	Rated speed rpm : 905
Tolerance mm : +- 0.05	guide sleeve
	travel mm : 6.54
DACTA CETTING	Tolerance mm : +- 0.25
BASIC SETTING	Detect aread are 1 701
Rated speed rpm : 1250	Rated speed rpm : 381
Rated speed rpm : 1250	guide sleeve
No.	+ travel mm : 2.38 + Tolerance mm : +- 0.25
Del. quantity cm3/1000 strokes : 153.0	Tolerance mm : +- 0.25
cm3/1000 strokes : 153.0	Dated aread area . /71
To I among the second s	Rated speed rpm : 431
Tolerance cm3/1000 strokes : +- 1.0	guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 2.98
Check tolerance	Tolerance mm : +- 0.25
cm3/1000S. : +- 4.0	Rated speed rpm : 530
Chis7 10003. : += 4.0	
Cancad	guide sleeve : 3.77
Spreed	
Tolorance	Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : 5.0	Rated speed rpm : 1580
cms/ rudu strokes : 5.0	
Charle to Language	guide sleeve
Check tolerance cm3/1000s. : 9.0	travel mm : 13.50
cm3/1000S. ; 9.0	Tolerance mm : +- 0.50
And the first the first the same the same to the first t	· T
	GUIDE SLEEVE POSITION
Rated speed rpm : 300	T GOIDE SEEEVE POSITION
Nated speed (pill . 300	$oxed{I}$
Rack travel in mm : -6.30	control lever
Tolerance mm : +- 0.10	position degree : - 1
Del. quantity	Rated speed rpm : 1380
cm3/1000 strokes : 34.0	
Tolerance	+ Rack travel in mm : 10.50
cm3/1000 strokes : +- 2.0	+ Tolerance mm : +- 1.30
Check tolerance	T rocer ance man . r = 1.50
cm3/1000s. : +- 5.0	
Spreed	FULL LOAD DELIVERY OF FULL LOAD STOP
Tolerance	T TOLL LOAD DELIVERY OF TOLL LOAD STOP
cm3/1000 strokes : 8.0	Rated speed rpm : 1250
Check tolerance	+ Aneroid pressure
cm3/1000s. : 12.0	+ hPa : 1000
10000	Del. quantity
	+ cm3/1000 strokes : 153.0
(B) SETTING OF INJECTION PUMP	+ Tolerance
WITH GOVERNOR	+ cm3/1000 strokes : +- 1.0
WITH GOVERNOR	+ Check tolerance
	+ cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAVEL	Spreed
COLUMN TO THE PROPERTY OF THE	+ Tolerance
Rated speed rpm : 1346	+ cm3/1000 strokes : 5.0
guide steeve	Check tolerance
travel mm : 10.55	+ cm3/1000s. : 9.0
Tolerance mm : + 0.15	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	+
	‡
-	
Rated speed rpm : 300	CONTROL LEVER
-	CONTROL LEVER

control lever position degree tolerance degree	: 297.0 : +- 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: -1.00 : 1325 : +- 15
rack travel mm Rated speed rpm Tolerance 1/min	: -7.20 : 1420 : +- 5
rack travel mm Tolerance mm Rated speed rpm	: +- 0.50
LOW IDLE	
control leven position degree tolerance degree	: 244.0 : + 4.0
Setting point w/ou	t bumper spring
Rated speed rpm	: 200
CRT mm min.	: < -5.20
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : -6.30 : + 0.10
Rated speed rpm	: 400
TORQUE CONTROL Rated speed rpm	: 1250
Rated speed rpm rack travel mm Tolerance mm	: 850 : -1.35 : + 0.15
Rated speed rpm rack travel mm Tolerance mm	: 350 : -1.60 : +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	

Rated speed rpm	. 1250
Pressure hPa	: 1250 : 1000
Datasi amandama	. 4250
Rated speed rpm Pressure hPa	
	: -1.90
rack travel mm Tolerance mm	: + 0.20
TOTAL GILLE INN	. 1 0.20
MEASUREMENT	
Rated speed rpm	: 1250
Pressure hPa	: 160
rack travel mm	: -1.30
Tolerance mm	: + 0.10
Pressure hPa	: 280
rack travel mm	: -0.25
Tolerance mm	: +- 0.05
Start interlock	
Rated speed rpm	· > 175
Rated speed rpm	: < 240
Check	
speed 1/min	: > 155
Check	
anned 1/min	
speed 1/min	: < 260
FUEL DELIVERY CHA	
FUEL DELIVERY CHA	RACTERISTICS
FUEL DELIVERY CHA	RACTERISTICS
FUEL DELIVERY CHA	RACTERISTICS : 1000
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm	RACTERISTICS : 1000
FUEL DELIVERY CHA	: 1000 : 850
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1000 : 850 : 125.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1000 : 850
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1000 : 850 : 125.0 : + 3.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1000 : 850 : 125.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1000 : 850 : 125.0 : + 3.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1000 : 850 : 125.0 : + 3.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure	: 1000 : 850 : 125.0 : + 3.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1090 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa	: 1000 : 850 : 125.0 : + 3.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure	: 1000 : 850 : 125.0 : + 3.0 : + 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000s.	: 1000 : 850 : 125.0 : + 3.0 : + 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000s.	#ACTERISTICS : 1000 : 850 : 125.0 : + 3.0 : + 6.0 : 1250 : 113.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000s.	: 1000 : 850 : 125.0 : + 3.0 : + 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000s.	: 1000 : 850 : 125.0 : + 3.0 : + 6.0 : 1250 : 113.0 : + 1.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000s.	#ACTERISTICS : 1000 : 850 : 125.0 : + 3.0 : + 6.0 : 1250 : 113.0

STARTING FUEL DELIVERY

SETTING

Rated speed rpm	:	100
Del. quantity cm3/1000 strokes	:	108.0
Tolerance cm3/1000 strokes	; +	15.0
Check tolerance cm3/1000s.	: +-	19.0

LOW IDLE			
Rated speed rpm	:		300
Rack travel in mm Tolerance mm Del. quantity	:	+	-6.30 0.10
cm3/1000 strokes Tolerance	:		34.0
cm3/1000 strokes	;	+-	2.0
Check tolerance cm3/1000S. Spreed	:	+-	5.0
Tolerance cm3/1000 strokes Check tolerance	:		8.0
cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 16.05.97 : ISO 4113 Edition Test oil

Combination No. : 0 402 046 864

Injection pump

Pump designation : PES6P120A320RS3337

: -1

EP type number : 0 412 026 772

Governor

Governer design. : RQV300...1250PA1149

: -1K

: 0 421 815 421 Governer no.

Cust. part No. : CCEP 5142B 66-219

Customer-spec. information

Customer : RENAULT V.I

: MIDR 06-02-26 W4 Motor

Power KW : 155.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5

Overflow quantity

min. L/h : 125
Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.15 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 13.00 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

: **0-60-120-180-**240 Phasing

: -300

Tolerance $: \leftarrow 0.50$

Check

tolerance *NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : -0.35

Tolerance : \leftarrow 0.50

Check

tolerance *NW : ← 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

: 21.00

mm and maximum rack : 13.00

Difference * CS	: 2.00 ±	Tolerance mm :	 0.1 5
		Rated speed rpm : guide sleeve	300
RT ZERO POSITION	, +	travel mm :	1.31
	1	Tolerance mm :	+- 0.20
	1		
ack travel in mm	12.80	Rated speed rpm :	876
olerance mm		guide sleeve	
Occidence in	1	travel mm :	6.02
		Tolerance mm :	+ 0.25
ASIC SETTING	1	rocci di loc likii	. 0.25
MOIC OCTIVA	1	Rated speed rpm :	510
ated speed rpm	• 1250	guide sleeve	310
aced speed i pili	. 1250	travel mm :	3. 59
el. quantity			+ 0. 25
m3/1000 strokes	. 10/ D	TOTEL GIVE UM	• 0,23
MID TOUG STROKES	. 174.0	Rated speed rpm :	1600
'alamana			1000
olerance	†	guide sleeve	17 50
m3/1000 strokes	: - 1.0 +	travel mm :	13.50
	+	Tolerance mm :	← 0.50
heck tolerance	+		
m3/1 00 0s.	: + 4.0 +		
		GUIDE SLEEVE POSITION)N
preed	+		
	+		
olerance	+	control lever	
m3/1000 strokes	: 5.0 +	position degree :	- 1
	+	Rated speed rpm :	1415
heck tolerance	+		
m3/1000s.	: 9.0	Rack travel in mm :	12.15
	+	Tolerance mm :	+- 2.03
	+		
	+		
Rated speed rpm	: 300 +	FULL LOAD DELIVERY	AT FULL LOAD STOP
	1		
Rack travel in mm	I		
olerance mm	: -8.30 +	Rated speed rpm :	1250
oferance imi	<i>I</i>		
		Rated speed rpm : Aneroid pressure hPa :	1250 1000
el. quantity	: + 0.10	Aneroid pressure hPa :	
el. quantity m3/1000 strokes	: + 0.10	Aneroid pressure hPa : Del. quantity	1000
pel. quantity cm3/1000 strokes colerance	: ← 0.10 : 22.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes :	1000
pel. quantity cm3/1000 strokes olerance cm3/1000 strokes	: ← 0.10 : 22.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance	1000 194.0
m3/1000 strokes olerance m3/1000 strokes theck tolerance	: ← 0.10 : 22.0 : ← 2.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes :	1000 194.0
m3/1000 strokes olerance m3/1000 strokes theck tolerance m3/1000s.	: ← 0.10 : 22.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance	1000 194.0 +- 1.0
pel. quantity m3/1000 strokes Tolerance m3/1000 strokes Theck tolerance m3/1000s.	: ← 0.10 : 22.0 : ← 2.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1800s. :	1000 194.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: ← 0.10 : 22.0 : ← 2.0 : ← 5.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1800s. : Spreed	1000 194.0 +- 1.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: ← 0.10 : 22.0 : ← 2.0 : ← 5.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance	1000 194.0 +- 1.0 +- 4.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: + 0.10 : 22.0 : + 2.0 : + 5.0 : 8.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1800S. : Spreed Tolerance cm3/1000 strokes :	1000 194.0 +- 1.0 +- 4.0
el. quantity m3/1000 strokes olerance m3/1000 strokes heck tolerance m3/1000S. preed olerance m3/1000 strokes heck tolerance	: ← 0.10 : 22.0 : ← 2.0 : ← 5.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance	1000 194.0 +- 1.0 +- 4.0 5.0
mel. quantity m3/1000 strokes olerance m3/1000 strokes heck tolerance m3/1000s. preed olerance m3/1000 strokes heck tolerance	: + 0.10 : 22.0 : + 2.0 : + 5.0 : 8.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1800S. : Spreed Tolerance cm3/1000 strokes :	1000 194.0 +- 1.0 +- 4.0
pel. quantity mm3/1000 strokes olerance mm3/1000 strokes theck tolerance mm3/1000s. Spreed olerance mm3/1000 strokes theck tolerance mm3/1000s.	: + 0.10 : 22.0 : + 2.0 : + 5.0 : 8.0 : 12.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance	1000 194.0 +- 1.0 +- 4.0 5.0
pel. quantity m3/1000 strokes Tolerance m3/1000 strokes Theck tolerance m3/1000s. Thered Tolerance m3/1000 strokes Theck tolerance m3/1000 strokes Theck tolerance m3/1000s.	: + 0.10 : 22.0 : + 2.0 : + 5.0 : 8.0 : 12.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance	1000 194.0 +- 1.0 +- 4.0 5.0
pel. quantity m3/1000 strokes Tolerance m3/1000 strokes Theck tolerance m3/1000s. Thered Tolerance m3/1000 strokes Theck tolerance m3/1000 strokes Theck tolerance m3/1000s.	: + 0.10 : 22.0 : + 2.0 : + 5.0 : 8.0 : 12.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000s. :	1000 194.0 +- 1.0 +- 4.0 5.0
mel. quantity m3/1000 strokes olerance m3/1000 strokes heck tolerance m3/1000s. preed olerance m3/1000 strokes heck tolerance m3/1000 strokes heck tolerance m3/1000s.	: + 0.10 : 22.0 : + 2.0 : + 5.0 : 8.0 : 12.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance	1000 194.0 +- 1.0 +- 4.0 5.0
eel. quantity m3/1000 strokes olerance m3/1000 strokes check tolerance m3/1000s. cpreed clerance m3/1000 strokes check tolerance m3/1000 strokes check tolerance m3/1000s.	: + 0.10 : 22.0 : + 2.0 : + 5.0 : 8.0 : 12.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1800S. : Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Check tolerance : Check tolerance : Check tolerance : Check tolerance :	1000 194.0 +- 1.0 +- 4.0 5.0
mel. quantity m3/1000 strokes olerance m3/1000 strokes heck tolerance m3/1000s. preed olerance m3/1000 strokes heck tolerance m3/1000s. B) SETTING OF IN ITH GOVERNOR	: + 0.10 : 22.0 : + 2.0 : + 5.0 : 8.0 : 12.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000s. :	1000 194.0 1.0 4.0 5.0 9.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Epreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR	: + 0.10 : 22.0 : + 2.0 : + 5.0 : 8.0 : 12.0 NJECTION PUMP	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000s. :	1000 194.0 1.0 4.0 5.0 9.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Expreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR	: + 0.10 : 22.0 : + 2.0 : + 5.0 : 8.0 : 12.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000s. :	1000 194.0 1.0 4.0 5.0 9.0
Colerance mm Del. quantity Cm3/1000 strokes Tolerance Cm3/1000 strokes Check tolerance Cm3/1000s. Spreed Tolerance Cm3/1000 strokes Check tolerance Cm3/1000 strokes Check tolerance Cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm Guide sleeve	: + 0.10 : 22.0 : + 2.0 : + 5.0 : 8.0 : 12.0	Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance cm3/1000s. :	1000 194.0 1.0 4.0 5.0 9.0

rack travel mm Rated speed rpm Tolerance 1/min	: -1.00 : 1372 : +- 15
rack travel mm Rated speed rpm Tolerance 1/min	: -8.80 : 1440 : +- 5
rack travel mm Tolerance mm Rated speed rpm	: -12.30 : +- 0.50 : 1550
LOW IDLE	
control lever position degree tolerance degree	: 245.0 : ← 4.0
Setting point w/o	urt bumper spring
Rated speed rpm	: 200
CRT mm min.	: < -7.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : −8.30 : ← 0.10
Rated speed rpm	: 400
TORQUE CONTROL Rated speed rpm	: 1250
Rated speed rpm rack travel mm Tolerance mm	: 850 : -1.75 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 350 : -1.50 : + 0.30
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm	: 1000 : 1000 : -1.40

1000

Pressure hPa rack travel mm Tolerance mm	: -3.75 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 1000
Pressure hPa rack travel mm Tolerance mm	: 160 : -3.10 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 280 : -2.05 : +- 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 175 : < 240
Check speed 1/min	: > 155
Check speed 1/min	: < 260
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1000
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1000 : 850
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1000 : 850 : 139.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1000 : 850 : 139.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 1000 : 850 : 139.0 : + 3.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1000 : 850 : 139.0 : + 3.0 : + 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: 1000 : 850 : 139.0 : + 3.0 : + 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1000 : 850 : 139.0 : + 3.0 : + 6.0 : 1000 : 118.0

STARTING FUEL DELIVERY

Rated speed rpm : Del. quantity cm3/1000 strokes : 100 102.0

Rated speed rpm

Tolerance cm3/1000 strokes : +- 15.0 Check tolerance

cm3/1000s. : +- 19.0

BUDI WCJ

Rated speed rpm : 300 Rack travel in mm: -8.30 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : +- 2.0Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 15.05.97 Edition Test oil : ISO 4113

Combination No. : 0 402 646 670

Injection pump

Pump designation : PE6P120A320RS7438

EP type number : 0 412 626 965

Governor

Governer design. : RQV275...1150PA1296K

Governer no. : 0 421 815 523

Cust. part No. : 1316183

Customer-spec. information

Customer : DAF

: PF 235 M Motor : 230.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 000

1.5 Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

min. l/h : 150 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

: **←** 0.75 tolerance *NW

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm: 13.50 Tolerance mm : +- 0.05

	+ guide sleeve
Del. quantity	travel mm : 3.85
cm3/1000 strokes : 259.0	+ Tolerance mm : +- 6.25
the following the control of the con	1
Tolerance	Rated speed rpm : 1480
cm3/1000 strokes : +- 1.0	guide sleeve
CHET TOOL STOKES : TO	
Charles and a second	+ travel mm : 13.50
Check tolerance	Tolerance mm : +- 0.50
cm3/1000s. : +- 4.0	†
Spreed	+ GUIDE SLEEVE POSITION
	+
Tolerance	+
cm3/1000 strokes : 5.0	+ control lever
	<pre>position degree : - 1</pre>
Check tolerance	+ Rated speed rpm : 1321
cm3/1000s. : 9.0	+
• • • • • • • • • • • • • • • • • • • •	Rack travel in mm: 12.25
	+ Tolerance mm : +- 1.30
	1 Total dilloc limit
Rated speed rpm : 275	
rated speed (pill . 27)	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 5.00	I TOLL LOND DELIVERY AT FOLE LOND STOP
	Rated speed rpm : 850
Tolerance mm : +- 0.10	
Del. quantity	Aneroid pressure
cm3/1000 strokes : 16.0	+ hPa : 1500
Tolerance	+ Del. quantity
cm3/1000 strokes : +- 3.0	- cm3/1000 strokes : 259.0
Check tolerance	† Tolerance
cm3/1000s. : +- 6.0	+ cm3/1000 strokes : +- 1.0
Spreed	+ Check tolerance
Tolerance	+ cm3/1000s. : +- 4.0
cm3/1000 strokes : 8.0	+ Spreed
Check tolerance	Tolerance
cm3/1000s. : 12.0	+ cm3/1000 strokes : 5.0
	- Check tolerance
	- cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP	1 (1137 10003.
WITH GOVERNOR	
WITH GOVERNOR	T
	CONTOCI LEVED
Author At Chief Thause	CONTROL LEVER
GUIDE SLEEVE TRAVEL	T control to the
	+ control lever
Rated speed rpm : 1201	+ position degree : 119.0
guide sleeve	+ tolerance degree : +- 4.0
travel mm : 10.07	+
Tolerance mm : + 0.15	+ RATED SPEED
	+ rack travel mm : 12.30
Rated speed rpm : 275	Rated speed rpm : 1215
guide steeve	+ Tolerance 1/min : +- 5
travel mm : 1.71	+ Check
Tolerance mm : +- 0.20	speed 1/min : +- 10
e to the limit of the terms of	
Rated speed rpm : 811	rack travel mm : 4.00
guide steeve	Rated speed rpm : 1340
travel mm : 6.79	+ Tolerance 1/min : +- 15
	+ Check
Tolerance mm : +- 0.25	1115 111
Ontard annual con	speed 1/min : +- 20
Rated speed rpm : 450	1 272
	+ rack travel mm : 0.70

Tolerance mm Rated speed rpm	: +- 0.70 : 1450
LOW IDLE	
control lever position degree tolerance degree	: 70.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.60
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 5.00 : +- 0.10
Rated speed rpm	: 395
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 13.50 : + 0.05 : 1130
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 13.35 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 800 : 13.45 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 650 : 12.85 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.10 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1150 : 13.30 : +- 0.10

ANEROID/ALTITUDE	:
COMPENSATOR TEST	-

SETTING

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	•	
Rated speed rpm Pressure hPa rack travel mm	:	

Tolerance mm	: + 0.10
MEASUREMENT	
Rated speed rpm	: 875
Pressure hPa rack travel mm Tolerance mm	: 390 : 12.20 : +- 0.05
Pressure hPa rack travel mm Tolerance mm	: 130 : 10.10 : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm		1500 1130
Del. quantity cm3/1000 strokes	:	238.0
Tolerance cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s.	: +	5.0
Spreed Tolerance		•
cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0
Aneroid pressure		

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	600
Del. quantity		
cm3/1000 strokes	:	170.0
Tolerance		
cm3/1000 strokes	: +	1.0
Check tolerance		
cm3/1000s.	: +-	4.0

Spreed

Tolerance

cm3/1000 strokes :
Check tolerance

8.0

cm3/1000s.

12.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm: 5.00
Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 16.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : \leftarrow 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.05.97 : ISO 4113 Test oil

Combination No. : 0 402 646 671

Injection pump

Pump designation : PE6P120A320RS7421 EP type number : 0 412 626 956

Governor

Governer design. : RQV275...1150PA1297K

Governer no. : 0 421 815 524

Cust. part No. : 1316184/1

Customer-spec. information Customer : DAF

: PF 205 M Motor Power KW : 205.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 160 Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.85
Tolerance mm : + 0.05

Check

: + 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : **0-60-120-18**0-240

: -300

Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm: 12.35

Tolerance mm: $\leftarrow 0.05$

	∔ guide sleeve
Del. quantity cm3/1000 strokes : 231.0	travel mm : 3.85 Tolerance mm : + 0.25
Tolerance cm3/1000 strokes : + 1.0	+ Rated speed rpm : 1480 + guide sleeve
Check tolerance cm3/1000s. : + 4.0	travel mm : 13.50 Tolerance mm : + 0.50
Spreed	GUIDE SLEEVE POSITION
	+
Tolerance cm3/1000 strokes : 5.0	control lever position degree : - 1
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 1329
Sign-Stan-Sign Stagleiger span, span self-films bern dals dam gap mar selek Sille Stan-span stage span	+ Rack travel in mm : 11.10
	Tolerance mm : + 2.70
	+
Rated speed rpm : 275	
7	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 4.90	Detail and down a SEO
Tolerance mm : + 0.10	Rated speed rpm : 850
Del. quantity cm3/1000 strokes : 16.0	+ Aneroid pressure + hPa : 1500
Tolerance	Del. quantity
cm3/1000 strokes : +- 3.0	cm3/1000 strokes : 231.0
Check tolerance	+ Tolerance
cm3/1000s, : + 6.0	+ cm3/1000 strokes : +- 1.0
Spreed	+ Check tolerance
Tolerance	+ cm3/1000s. : +- 4.0
cm3/1000 strokes : 8.0	+ Spreed
Check tolerance	+ Tolerance
cm3/1000s. : 12.0	+ cm3/1000 strokes : 5.0
	+ Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- cm3/1000s. : 9.0
	CONTROL LEVER
GUIDE SLEEVE TRAVEL	- CONTINUE COULT
	the control lever
Rated speed rpm : 1206	position degree : 118.0
guide sleeve	tolerance degree : +- 4.0
travel mm : 10 12	† DITTO COPTO
Tolerance mm : + 0.15	+ RATED SPEED
Datus around som a 275	+ rack travel mm : 11.10
Rated speed rpm : 275 guide sleeve	+ Rated speed rpm : 1195 + Tolerance 1/min : + 5
travel mm : 1.71	Check
Tolerance mm : +- 0.20	speed 1/min : + 10
रक्ष्म जारक प्राप्त र करक	1
Rated speed rpm : 813	rack travel mm : 4.00
guide sleeve	Rated speed rpm : 1300
travel mm : 6.81	Tolerance 1/min : + 15
Tolerance mm : +- 0.25	Check
	+ speed 1/min : + 20
Rated speed rpm : 450	+ rack travel mm : 0.70
	T rack travet iiiii : U.70

Tolerance mm	: ← 0.70
Rated speed rpm	: 1400
LOW IDLE	
control lever position degree tolerance degree	: 71.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.50
Testing:	
Rated speed rpm	: 275
rack travel mm	: 4.90
Tolerance mm	: ← 0.10
Rated speed rpm	: 350
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 850 : 12.35 : + 0.05
Rated speed rpm	: 1130
rack travel mm	: 12.10
Tolerance mm	: + 0.10
Rated speed rpm	: 1000
rack travel mm	: 12.15
Tolerance mm	: +- 0.10
Rated speed rpm	: 800
rack travel mm	: 12.25
Tolerance mm	: +- 0.10
Rated speed rpm	: 650
rack travel mm	: 11.50
Tolerance mm	: + 0.10
Rated speed rpm	: 500
rack travel mm	: 10.85
Tolerance mm	: +- 0.10
Rated speed rpm	: 1150
rack travel mm	: 12.10
Tolerance mm	: +- 0.10

ANEROID/ALTI	TUDE
COMPENSATOR	TEST

SETTING

Rated speed rpm	: 875
Pressure hPa	: 1500
rack travel mm	: 12.35
Tolerance mm	: +- 0.10
Rated speed rpm	: 875
Pressure hPa	: -
rack travel mm	: 8.00
Tolerance mm	: +- 0.10
MEASUREMENT	

Rated speed rpm	: 875
Pressure hPa	: 420
rack travel mm	: 11.35
Tolerance mm	: + J.05
Pressure hPa	: 150
rack travel mm	: 9.20
Tolerance mm	: + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm	:		500 30
Del. quantity cm3/1000 strokes Tolerance	:	2	207.0
cm3/1000 strokes Check tolerance	:	+	2.0
cm3/1000s. Spreed	:	+-	5.0
Tolerance cm3/1000 strokes	:		8.0
Check tolerance cm3/1000s.	:		12.0

Aneroid pressure			
hPa	:		_
Rated speed rpm	:		600
Del. quantity			
cm3/1000 strokes	:		138.0
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	4.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

LOW IDLE

275 Rated speed rpm :

4.90 Rack travel in mm: 0.10 Toleratice mm Del. quantity cm3/1000 strokes : 16.0

Tolerance

3.0 cm3/1000 strokes : +-

Check tolerance

cm3/1000s. 6.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.05.97 Test oil : ISO 4113

Combination No. : 0 402 646 672

Injection pump

Pump designation : PE6P12OA32ORS7421 EP type number : 0 412 626 956

Governor

Governer design. : RQV275...1150PA1298K

Governer no. : 0 421 815 525

Cust. part No. : 1316185/1

Customer—spec. information Customer : DAF

Motor : PF 183 M Power KW : 183.0

TEST BENCH REQUIREMENTS

inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.8

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 150 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 11.05

Tolerance mm : + 0.05

		+ guide sleeve
Del. quantity	Main Man aggrappi singa 1990 1990 1990 1990 1990 1990 1990 199	+ travel mm : 3.85
cm3/1000 strokes	: 206.0	+ Tolerance mm : +- 0.25
Tolerance		Rated speed rpm : 1480
cm3/1000 strokes	: +- 1.0	guide sleeve
		+ travel mm : 13.50
Check tolerance		Tolerance mm : + 0.58
cm3/1000s.	: +- 4.0	T roter arice min 1 0.35
CMD/ 10003.	4.0	T
Spreed		GUIDE SLEEVE POSITION
spreed		4 GOIDE SPEECE LOSTITOM
Talamanaa		†
Tolerance	; 5.0	T annual lavan
cm3/1000 strokes	; 5.0	+ control lever
		+ position degree : -1
Check tolerance	0.0	+ Rated speed rpm : 1343
cm3/1000s.	: 9.0	†
	The forming age for William the States are one did not be for an expense out the	+ Rack travel in mm : 9.80
		+ Tolerance mm : ← 2.70
		+
Rated speed rpm	: 275	
		FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm		+
Tolerance mm	: ← C.10	
Del. quantity		+ Aneroid pressure
cm3/1000 strokes	: 16.0	+ hPa : 1500
Tolerance		Del. quantity
cm3/1000 strokes	: +- 3.0	+ cm3/1000 strokes : 206.0
Check tolerance		Tolerance
cm3/1000s.	: +- 6.0	- cm3/1000 strokes : +- 1.0
Spreed		Check tolerance
Tolerance		+ cm3/1000s. : + 4.0
cm3/1000 strokes	: 8.0	Spreed
Check tolerance	. 0.0	+ Tolerance
cm3/1000s.	: 12.0	cm3/1000 strokes : 5.0
(11137-10003)	. 12.0	Check tolerance
(D) SETTING OF THE	IECTION DUMD	+ cm3/1000s. : 9.0
(B) SETTING OF IN	SECLION FOMP	†
WITH GOVERNOR		†
		ACAITACH I TUED
		+ CONTROL LEVER
GUIDE SLEEVE TRAV	EL	†
	4000	+ control lever
Rated speed rpm	: 1200	+ position degree : 117.0
guide sleeve		tolerance degree : +- 4.0
travel mm	: 10.06	†
Tolerance mm	: + 0.15	+ RATED SPEED
		rack travel mm : 9.80
Rated speed rpm	: 275	+ Rated speed rpm : 1190
guide sleeve		Tolerance 1/min : + 5
travel mm	: 1.71	Check
Tolerance mm	: + 0.20	+ speed 1/min : +- 10
		+
Rated speed rpm	: 811	rack travel mm : 4.00
guide sleeve		Rated speed rpm : 1285
travel mm	: 6.79	Tolerance 1/min : +- 15
Tolerance mm	: +- 0.25	- Check
TO CE COLOUR TRAIL		+ speed 1/min : +- 20
Dated cheed nom	: 450	T Speed (/ III 11)
Rated speed rpm	• 470	rack travel mm : 0.70
		+ rack travel mm : 0.70

Tolerance mm Rated speed rpm	: +- 0.70 : 1450
LOW IDLE	
control lever position degree tolerance degree	: 72.0 : ← 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 4.90 : ← 0.10
Rated speed rpm	: 325
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 350 : 11.05 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1130 : 10.80 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 10.90 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 800 : 10.90 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 650 : 10.10 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 1150 : 10.80 : + 0.10

NEROID/ALT	TUDE
COMPENSATOR	TEST

SETTING

Rated speed rpm	:	875
Pressure hPa	:	1500
rack travel mm	:	11.10
Tolerance mm	: +	 0.10
		075

Rated speed rpm : 875
Pressure hPa : rack travel mm : 8.00
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm	:	8 75
Pressure hPa	:	350
rack traval mm	:	10.20
Tolerance mm	: +	- 0.05

Pressure hPa : 130 rack travel mm : 8.40 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm Del. quantity	: 1500 : 1130
cm3/1000 strokes	: 184.0
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000S.	: +- 5.0
Spreed Tolerance cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s.	: 12.0

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	600
Del. quantity		
cm3/1000 strokes	:	138.0
Tolerance		
cm3/1000 strokes	: +-	1.0
Check tolerance		
cm3/1^30s.	: +-	- 4.0

Spreed

Tolerance

cm3/1000 strokes :

8.0

Check tolerance

cm3/1000s.

12.0

LOW IDLE

Rated speed rpm : 275

4,90 Rack travel in mm :

0.10 Tolerance mm

Del. quantity

cm3/1000 strokes : 16.0

Tolerance

3.0 cm3/1000 strokes : +-

Check tolerance

cm3/1000s. 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s.

12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.04.97 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 926

Injection pump

Pump designation : PE8P12OA320LS7840 EP type number : 0 412 628 850

Governor

Governer design. : RQ300/1050PA972-11 Governer no. : 0 421 801 739

Sust. part No. : 0220747002

Customer-spec. information Customer : MB-NFZ : OM442 A Motor Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

1.5 Inlet press. bar : Tolerance bar 0.1

Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar

: 1 680 750 075 Test lines

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke man 5.25 : + - 0.05Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

: 8-7-2-6-3 Firing order

: - 5- 4- 1

Phasing **: 0-45-90-135-180**

: -225-270-315 : +- 0.50

Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

1050 Rated speed rpm :

Rack travel in mm: 12.60 Tolerance mm : \leftarrow 0.10

Del. quantity cm3/1000 strokes : 194.0

Tolerance

cm3/1000 strokes : +- 1.0

	+ Tolerance mm : +- 0.10
Check tolerance cm3/1000s. : +- 4.0	Poted and an advanced and a 1200
Spreed	+ Rated speed rpm : 1290 - guide sleeve - travel mm : 11.50
Tolerance	Tolerance mm : +- 0.50
cm3/1000 strokes : 8.0	GUIDE SLEEVE POSITION
Check tolerance	GOIDE SELEVE / USI / ION
cm3/1000s. : 11.0	control lever
time have the proportion that their standard and the standard and their time time deal time time time.	position degree : 109
N.A. d. a cond. mar	Rated speed rpm : 600
Rated speed rpm : 300	Rack travel in mm: 20.00
Rack travel in mm : 6.50	Tolerance mm : +- 0.80
Tolerance mm : + 0.10	+
Del. quantity	FULL LOAD DELTHERY AT SULL LOAD CTOD
cm3/1000 strokes : 13.0 Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : +- 3.0	Rated speed rpm : 1050
Check tolerance	+ Aneroid pressure
cm3/1000s. : +- 6.0 Spreed	+ hPa : 1909 + Del. quantity
Tolerance	+ cm3/1000 strokes : 194.0
cm3/1000 strokes : 4.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000s. : 8.0	+ Check tolerance + cm3/1000S. : +- 4.0
	Spreed
(B) SETTING OF INJECTION PUMP	+ Tolerance
WITH GOVERNOR	+ cm3/1000 strokes : 3.0 + Check tolerance
	+ cm3/1090s. : 11.0
GUIDE SLEEVE TRAVEL	
Rated speed rpm : 1104	
guide sleeve travel mm : 6.37	CONTROL LEVER
Tolerance mm : + 0.10	T control lever
	position degree : 96.0
Rated speed rpm : 300 guide sleeve	tolerance degree : +- 4.0
travel mm : 1.85	T RATED SPEED
Tolerance mm : + 0.10	+ rack travel mm : 11.60
1000	Rated speed rpm : 1098
Rated speed rpm : 1050 guide sleeve	Tolerance 1/min : +- 8
travel mm : 6.00	rack travel mm : 4.00
Tolerance mm : + 0.10	Rated speed rpm : 1200
Rated speed rpm : 402	Tolerance 1/min : +- 15
Rated speed rpm : 402 guide sleeve	t rack travel mm : 0.75
travel mm : 3.68	Tolerance mm : +- 0.75
Tolerance mm : + 0.10	Rated speed rpm : 1250
Rated speed rpm : 540	Ī
guide sleeve	+
travel mm : 6.00	1
travet iikii . 0.00	

LOW IDLE	
control lever position degree tolerance degree	: 74.0 : +- 4.0
Setting point w/c	out bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 7.90
Testing:	
Rated speed rpm rack travel mmn Tolerance mm	: 300 : 6.50 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	- -
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 12.60 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 800 : 12.60 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 450 : 1000 : 12.60 : + 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 450 : - : 11.10 : +- 0.15
MEASUREMENT	
Rated speed rpm	: 450

Pressure hPa rack travel mm Tolerance mm	: 380 : 12.10 : +- 0.15
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 220
Check speed 1/min Check	: > 80
speed 1/min	: < 240
FUEL DELIVERY CHAR	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1000 : 800
Del. quantity cm3/1000 strokes Tolerance	: 195.0
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s.	: +- 5.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 500 : 138.0 : + 1.0 : + 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity	: 100
cm3/1000 strokes Tolerance	: 190.0
cm3/1000 strokes Check tolerance	: +- 15.0
cm3/1000S.	: +- 19.0
LOW IDLE	
Rated sp∈ed rpm	: 300
Rack travel in mm	: 6.50

Pressure hPa : 250 rack travel mm : 11.40 Tolerance mm : + 0.20

Tolerance mm Del. quantity	; +-	0.10
cm3/1000 strokes	:	13.0
Tolerance cm3/1000 strokes	; +-	3.0
Check tolerance cm3/1000S. Spreed	: +	6.0
Tolerance cm3/1000 strokes Check tolerance	:	4.0
cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.04.97 Test oil : ISO 4113

Combination No. : 0 402 648 927

Injection pump

Pump designation : PE8P120A320LS7840 EP type number : 0 412 628 850

Governor

Governer design. : RQV300...1050PA797

: -38

: 0 421 814 084 Governer no.

Cust. part No. : 0220747102

Customer-spec. information : MB-NFZ Customer Motor : OM442 A Power KW : 250.0

TEST BENCH REQUIREMENTS

: 3.1 Inlet line

Test oil inlet

temp. °C Tolerance °C 2.0

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

: 110 min. L/h Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05 Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

: 0-45-90-135-180 Phasing : -225-270-315

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.60

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 194.0

K09

	+ Check tolerance
Tolerance cm3/1000 strokes : + 1.0	cm3/1000s. : +- 4.0 Spreed Tolerance
Check tolerance cm3/1000s. : + 4.0	- cm3/1000 strokes : 6.0 - Check tolerance
Spreed	- cm3/1000s. : 9.0
	+
Tolerance cm3/1000 strokes : 6.0	CONTROL LEVER
Check tolerance cm3/1000s. : 9.0	control lever position degree : 122.0 tolerance degree : +- 4.0
	TATES COURS
Rated speed rpm : 300	+ RATED SPEED + rack travel mm : 11.60
Rated speed rpm : 300	Rated speed rpm : 1095
Rack travel in mm : 6.50	Tolerance 1/min : +- 5
Tolerance mm : + 0.10	
Del. quantity	rack travel mm : 4.00
cm3/1000 strokes : 13.0	+ Rated speed rpm : 1165
Tolerance	Tolerance 1/min : + 15
cm3/1000 strokes : +- 3.0	The state of the s
Check tolerance cm3/1000s. : +- 6.0	rack travel mm : 0.50 Tolerance mm : + 0.50
Spreed	Rated speed rpm : 1250
Tolerance	The speed open in the second ope
cm3/1000 strokes : 4.0	+
Check tolerance	+
cm3/1000s. : 8.0	LOW IDLE
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	control lever
WITH GOVERNOR	position degree : 86.0
	tolerance degree : + 4.0
	+
GUIDE SLEEVE POSITION	Setting point w/out humper spring
control lever	Rated speed rpm : 200
position degree : - 1 Rated speed rpm : 1100	CRT mm min. : > 7.90
The second secon	Testing:
Rack travel in mm: 16.50	+
Tolerance mm : +- 1.30	Rated speed rpm : 300
	rack travel mm : 6.50 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	+
Detail around non a 1000	Rated speed rpm : 375
Rated speed rpm : 1050 Aneroid pressure	
hPa : 1000	TORQUE CONTROL
Del. quantity	+ Rated speed rpm : 1050
cm3/1000 strokes : 194.0	+ rack travel mm : 12.60
Tolerance	Tolerance mm : + 0.05
cm3/1000 strokes : +- 1.0	Rated speed rpm : 800
	the second secon

rack travel mm Tolerance mm	: 12.60 : + 0.05		† Tol + cm3 + Che
ANEROID/ALTITUDE COMPENSATOR TEST		Aprilla Color Colo	+ cm3
SETTING			+ STA
Pressure hPa	: 1000		+ Rat + Del
rack travel mm	: 12.60		- cm3
Tolerance mm	· + 0.05		+ Tol
			+ cm3
Rated speed rpm	: 450		+ Che
Pressure hPa			+ cm3
rack travel mm	: 11.10		†
Tolerance mm	: +- 0.15		İ
MEASUREMENT			+
Danasura LD-	. 250		+ LOW
Pressure hPa	: 250		†
rack travel mm Tolerance mm	: 11.40 : → 0.20		Rat
toter drive min			Rac
Pressure hPa	: 380		+ Tol
rack travel mm	: 12.10		+ Del
Tolerance mm	: ← 0.15		+ cm3
			+ Tol
			+ cm ³
Start interlock			+ Che
Dated aread are	: > 100		+ cm3 + Spr
Rated speed rpm Rated speed rpm			T Tol
Matea Speed Mil			T cm3
Check			Che
speed 1/min	: > 80		+ cm3
Check			+
speed 1/min	: < 240		‡
FUEL DELIVERY CHA	ARACTERISTICS		+ -
			† End
Aneroid pressure			+
hPa	: 1000		+
Rated speed rpm	: 800		+
Del. quantity	40.00		+
cm3/1000 strokes	: 195.0		†
Tolerance			Ť
cm3/1000 strokes Check tolerance	: +- 2.0		İ
cm3/1000s.	: +- 5.0		I
			+
			ţ
Aneroid pressure			Ť
hPa	500		Ī
Rated speed rpm Del. quantity	: 500		Ī
cm3/1000 strokes	: 138.0		I
CIND/ TOGO STROKES	. 130.0		Т

rance 1000 strokes : +- 1.0 k tolerance 1000s. : +- 4.0 TING FUEL DELIVERY d speed rpm : 100 quantity 1000 strokes : 190.0 rance 1000 strokes : +- 10.0 k tolerance 1000s. : +- 14.0 IDLE d speed rpm : 300 travel in mm: 6.50 rance mm : +- 0.10 quantity 1000 strokes : 13.0 rance 1000 strokes : +- 3.0 k tolerance 1000s. : +- 6.0 ed rance 1000 strokes : 4.0 k tolerance 1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 30.01.97 Test oil : ISO 4113

Combination No. : 0 402 676 832

Injection pump

Pump designation : PE6P120A320LS7898

EP type number : 0 412 626 957

Governor

Governer design. : RSV350...1000P0A648

Governer no. : 0 421 833 565

Cust. part No. : 0270743202

Customer-spec. information Customer : MB-NFZ Motor : 0M441 A Power KW : 170.0 : M441 4

: 170.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet temp. °C : 40 Tolerance °C : → 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 120
Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 6-3-5-2-4-

: 1

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 11.75	
Tolerance mm : +- 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 172.0	Rated speed rpm : 980 Aneroid pressure
	+ hPa : 1000
Tolerance cm3/1000 strokes : +- 1.0	+ Del. quantity + cm3/1000 strokes : 172.0
Check tolerance	+ Tolerance + cm3/1000 strokes : + 1.0
cm3/1000s. : +- 4.0	+ Check tolerance + cm3/1000s. : +- 4.0
Spreed	+ Spreed + Tolerance
Tolerance	+ cm3/1000 strokes : 5.0
cm3/1000 strokes : 5.0	+ Check tolerance + cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	‡
Shark Stays State State and PSEC State Supering and a Process state and a special state.	CONTROL LEVER
Rated speed rpm : 350	t control lever
	position degree : 93.0
Rack travel in mm: 5.00	tolerance degree : +- 4.0
Tolerance mm : +- 0.10	†
Del. quantity cm3/1000 strokes : 19.0	+ ASSEMBLY GOVERNOR SETTING
Tolerance	†
cm3/1000 strokes : +- 3.0	+ Rated speed rpm : 1030
Check tolerance cm3/1000s. : +- 6.0	rack travel mm : 10.70
Spreed	+ Rated speed rpm : 1080
Tolerance	
cm3/1000 strokes : 6.0	rack travel mm : 4.00
Check tolerance	+
cm3/1000s. : 10.0	+ rack travel mm : 0.85
	Tolerance mm : + 0.55
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1300
WITH GOVERNOR	I
Walling de California	Rated speed rpm : 1031
	Rated speed rpm : 1031 rack travel mm : 10.70
CUIDE SUFFUE POSITION	Poted speed speed 1001
GUIDE SLEEVE POSITION	+ Rated speed rpm : 1081 + Tolerance 1/min : +- 4
	+ rack travel mm : 4.00
control lever	+
position degree : - 3	rack travel mm : 0.85
Rated speed rpm : 800	+ Tolerance mm : $+$ 0.55
One has a second of the second	Rated speed rpm : 1300
Rack travel in mm: 0.50 Tolerance mm: +- 0.20	I
TOLET BILLE WILL	Rated speed rpm : 1032
governor spring	+ rack travel mm : 10.70
pre-tension -	+
click setting $x : 4.50$	+ Rated speed rpm : 1082
	Tolerance 1/min : + 4
	+ rack travel mm : 4.00

		,
anal tanual as	. 0 %5	2.00
rack travel mm		rack travel mm : 2.00
Tolerance mm		Rated speed rpm : 405
Rated speed rpm	: 1300	† Tolerance 1/min : +- 30
Dated sead our	. 1077	SET IDLE AUXILIARY SPRING
Rated speed rpm	: 1033	1 200
rack travel mm	: 10.70	+ rack travel mm : 2.00
Rated speed rpm		
Tolerance 1/min	: +- 4	+ TORQUE CONTROL
rack travel mm	: 4.00	+ Rated speed rpm : 980
		Rated speed rpm : 980 rack travel mm : 11.75 Tolerance mm : +- 0.05
rack travel mm	: 0.85	+ Tolerance mm : +- 0.05
Tolerance mm	: +- 0.55	+
Rated speed rpm	: 1300	Rated speed rpm : 600
		rack travel mm : 11.75
		+ Tolerance mm : + 0.05
Rated speed rpm	• 4037	10001 01100 11811 0.00
rack travel mm	: 1034	Poted anded mm . /00
rack travel mm	: 10.70	Rated speed rpm : 400
	400.	+ rack travel mm : 11.20
Rated speed rpm	: 1084	+ Tolerance mm : +- 0.15
Tolerance 1/min	: + 4	+
rack travel mm	: 4.00	
		+ ANEROID/ALTITUDE
rack travel mm	: 0.85	+ COMPENSATOR TEST
Tolerance mm		
Rated speed rpm	: 1300	
kated speed rpm	. 1300	CETTAIC
		SETTING
Baked canada a	1075	7
Rated speed rpm	: 1035 : 10.70	Rated speed rpm : 400
rack travel mm	: 10.70	Rated speed rpm : 400 Pressure hPa : 1000
		+ rack travel mm : 11.75
Rated speed rpm	: 1085	+ Tolerance mm : +- 0.05
Tolerance 1/min	: +- 4	+
rack travel mm		+ Rated speed rpm : 400
		+ Pressure hPa : -
rack travel mm	: 0.85	rack travel mm : 10.05
Tolerance mm	: +- 0.55	+ Tolerance mm : +- 0.15
Rated speed rpm		1000101100 11111
nated speed rpill		T MEASUREMENT
		+ ILLABOREI IEIVI
LOW IDLE		Rated speed rpm : 400
		700
		+ Pressure hPa : 300
control lever		rack travel mm : 10.80
position degree	: 73.0	Tolerance mm : +- 0.15
tolerance degree	: 4.0	+
		Pressure hPa : 400
Setting point w/d	out bumper spring	rack travel mm : 11.40
		Tolerance mm : +- 0.15
Rated speed rpm	: 100	1000, 01,00 , 1111
nated speed right	. 100	1
COT me min	. > 10 50	T
CRT mm min.	: 7 17.30	FUEL DEL TUEDY CHADACTERTOTTOS
- •		† FUEL DELIVERY CHARACTERISTICS
Testing:		_
والمحمد المحمد	. 750	Ananaid
Rated speed rpm		Aneroid pressure
rack travel mm	: 5.00	+ hPa : 1000
Tolerance mm	: +- 0 10	+ Rated speed rpm : 600

Del. quantity	470.0
cm3/1000 strokes Tolerance	: 170.0
cm3/1000 strokes Check tolerance	;
cm3/1000s.	: +- 6.0
Spreed Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
Aneroid pressure	
hPa	350
Rated speed rpm Del. quantity	: 400
cm3/1000 strokes	: 131.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000s. Spreed	: +- 4.0
Tolerance	
cm3/1000 strokes	: 8.0
Aneroid pressure	
hPa	: -
Rated speed rpm	: 500
Del. quantity cm3/1000 strokes	: 136.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000s. Spreed	: +- 4.0
Tolerance	
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
Del. quantity	
cm3/1000 strokes Tolerance	: 180.0
cm3/1000 strokes	: +- 10.0
Check tolerance cm3/1000s.	: ← 14.0
LOU TOLE	
LOW IDLE	
1	700

Rack travel in mm Tolerance mm	:	+-	5.00 0.10
Del. quantity cm3/1000 strokes Tolerance	:		19.0
cm3/1000 strokes Check tolerance	:	+-	3.0
cm3/1000s.	:	+-	6.0
Tolerance cm3/1000 strokes Check tolerance	:		6.0
cm3/1000s.	:		10.0

End of test specification sheet

K15

Rated speed rpm :

350

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.05.97 Test oil : 15.05.97

Combination No. : 0 402 676 836

Injection pump

Pump designation : PE6P120A320LS7898 EP type number : 0 412 626 957

Governor

Governer design. : RSV350...1050P0A668

Governer no. : 0 421 833 587

Cust. part No. : 0280740302

Customer-spec. information

Customer : MB-NFZ : CM%41 A euromot Motor

Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

: 40 : ← 2.0 temp. °C Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 130 Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter :

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25
Tolerance mm : 4- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 20.50 Tolerance mm : +- 0.50

Firing order : 6-3-5-2-4-

: 1

Phasing : **0-60-120-1**80-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm: 13.30	İ
Tolerance mm : +- 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
All the boundary was all the Table and the part of the boundary was the second of the boundary was the	+
Del. quantity	+ Rated speed rpm : 1030
cm3/1000 strokes : 206.0	+ Aneroid pressure
Tolerance	+ hPa : 1000 + Del. quantity
cm3/1000 strokes : +- 1.0	cm3/1000 strokes : 206.0
	+ Tolerance
Check tolerance	+ cm3/1000 strokes : + 1.0
cm $3/1000$ s. : \leftarrow 4.0	Check tolerance
Spreed	+ cm3/1000s. : +- 4.0 + Spreed
opreed	+ Tolerance
Tolerance	+ cm3/1000 strokes : 5.0
cm3/1000 strokes : 5.0	+ Check tolerance
Approximately approximately approximately the state of th	+ cm3/1000s. : 9.0
Check tolerance	†
cm3/1000s. : 9.0	†
	CONTROL LEVER
	+
Rated speed rpm : 350	t control lever
	† position degree : 93.0
Rack travel in mm : 5.40 Tolerance mm : +- 0.10	†
Tolerance mm : +- 0.10 Del. quantity	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 19.0	ACCEPTED GOVERNOR DETTING
Tolerance	Rated speed rpm : 1070
cm3/1000 strokes : +- 3.0	rack travel mm : 12.30
Check tolerance	1452
cm3/1000s. : +- 6.0 Spreed	+ Rated speed rpm : 1152 + Tolerance 1/min : +- 4
Tolerance	+ rack travel mm : 4.00
cm3/1000 strokes : 6.0	+
Check tolerance	rack travel mm : 0.85
cm3/1000s. : 10.0	+ Tolerance mm : + 0.55
	† Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP	İ
WITH GOVERNOR	Rated speed rpm : 1071
WEITH SOURCE	+ rack travel mm : 12.30
	+
	+ Rated speed rpm : 1153
GUIDE SLEEVE POSITION	Tolerance 1/min : +- 4
	+ rack travel mm : 4.00
control lever	rack travel mm : 0.85
position degree : - 3	rack travel mm : 0.85 Tolerance mm : + 0.55
Rated speed rpm : 800	Tolerance mm : + 0.55 Rated speed rpm : 1300
0.50	†
Rack travel in mm: 0.50	Poted speed ppm : 1072
Tolerance mm : +- 0.20	+ Rated speed rpm : 1072 + rack travel mm : 12.30
governor spring	12.50
pre-tension	Rated speed rpm : 1154
click setting x : 4.00	Tolerance 1/min : +- 4
	rack travel mm : 4.00

rack travel mm Tolerance mm	: 0.85 : + 0.55	<u> </u>
Rated speed rpm		+ TORQUE CONTROL
		Rated speed rpm : 1030
Dated and all and	. 4077	+ rack travel mm : 13.30
Rated speed rpm		+ Tolerance mm : +- 0.05
rack travel mm	: 12.30	Party I see and many 1900
	AAFF	+ Rated speed rpm : 800
Rated speed rpm		+ rack travel mm : 13.30
Tolerance 1/min		+ Tolerance mm : + 0.10
rack travel mm	: 4.00	† 2
	0.05	Rated speed rpm : 400
rack travel mm	: 0.85	rack travel mm : 12.05
Toterance mm	: ← 0.55	Tolerance mm : +- 0.15
Rated speed rpm	: 1300	†
	407/	+ ANEROID/ALTITUDE
Rated speed rpm		COMPENSATOR TEST
rack travel mm	: 12.30	†
	4454	†
Rated speed rpm		† SETTING
Tolerance 1/min		† - · · · · · · · · · · · · · · · · · ·
rack travel mm	: 4.00	+ Rated speed rpm : 400
		+ Pressure nPa : 1000
rack travel mm		rack travel mm : 13.30
Tolerance mm	: + 0.55	+ Tolerance mm : + 0.05
Rated speed rpm	: 1300	+
		+ Rated speed rpm : 400
		- Pressure hPa : -
Rated speed rpm		rack travel mm : 10.40
rack travel mm	: 12.30	+ Tolerance mm : +- 0.15
		+
Rated speed rpm		+ MEASUREMENT
Tolerance 1/min		+
rack travel mm	: 4.03	+ Rated speed rpm : 400
		+
rack travel mm		+ Pressure hPa : 500
Tolerance mm		rack travel mm : 12.05
Rated speed rpm	: 1300	† Tolerance mm : +- 0.15
		+
		Pressure hPa : 350
LOW IDLE		rack travel mm : 10.80
		+ Tolerance mm : +- 0.15
		†
control lever		1
position degree	: 71.0	
- 4		+ FUEL DELIVERY CHARACTERISTICS
Testing:		†

Rated speed rpm	: 550	+ Aneroid pressure
rack travel mm	: 5.40	hPa : 1000
Tolerance mm	: ← 0.10	Rated speed rpm : 800
	2.22	+ Del. quantity
rack travel mm		cm3/1000 strokes : 207.0
Rated speed rpm	: 475	+ Tolerance
		+ cm3/1000 strokes : +- 3.0
SET IDLE AUXILIAN	RY SPRING	+ Check tolerance
	2.00	+ cm3/1000s. : +- 6.0
rack travel mm	: 2.00	Spreed
		†

Tolerance	
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
-	
Aneroid pressure	
hPa Rated speed rpm	: 500 : 400
Del. quantity	
cm3/1000 strokes Tolerance	: 154.0
cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed	
Tolerance cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s.	: 12.0
Annosid massacra	
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes	: 145.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000s. Spreed	: + 4.0
Tolerance	• •
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
STARTING FUEL DEL	IVERY
	400
Rated speed rpm Del. quantity	
cm3/1000 strokes Tolerance	: 200.0
cm3/1000 strokes	: + 10.0
Check tolerance cm3/1000s.	: + 14.0
	· · · · · · · · · · · · · · · · · · ·
LOW IDLE	
	. 750
Rated speed rpm	
Rack travel in mm Tolerance mm	: 5.40 : ← 0.10
Del. quantity cm3/1000 strokes	0.10
	: 19.0

Tolerance		
cm3/1000 strokes	: +	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	:	10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 21.05.97

Test oil

: ISO 4113

Combination No. : 0 402 746 653

Injection pump

Pump designation : PES6P120A720LS7209

: -3

EP type number

: 0 412 726 941

Governor

Governer design. : RQV300...1100PA1006

: -2K

Governer no.

: 0 421 815 467

Cust. part No. : 51.11103-7424

Sustomer-spec. information

Customer : MAN

Motor

: D 2866 LE 402

Power KW

: 368.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inler

temp. °C

40

Tolerance °C

Overflow valve

: 1 417 413 047

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Overflow quantity

min. l/h : 175 Tolerance l/h : +- 10.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter:

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0

Tolerance bar : +- 1.0

Prestroke mm : 4.85

Tolerance ma : +- C.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 13.00

Tolerance mm : +- 0.50

: 6-2-4-1-5-Firing order

: 3

Phasing : **3-60-120-18**0-240

: -300

Tolerance : **←** 0.50

Check

: +- 0.75 tolerance *NW

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.80

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 315.0

Tolerance

cm3/1000 strokes : +- 1.0

K20

	+	- Tolerance mm : +- 0.50
Check tolerance cm3/1000s.	: + 4.0	- FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed		· · · · · · · · · · · · · · · · · · ·
Tolerance	‡	- Rated speed rpm : 1100 - Aneroid pressure
cm3/1000 strokes	: 8.0	- hPa : 2000 - Del. quantity
Check tolerance cm3/1000s.	: 12.0	- cm3/1000 strokes : 315.0 - Tolerance
CM3/ 10003.	. 12.0	- cm3/1000 strokes : + 1.0
	†	- Check tolerance - cm3/1000s. : +- 4.0
Rated speed rpm	: 300	- Spreed - Tolerance
Rack travel in mm Tolerance mm		- cm3/1000 strokes : 8.0
Del. quantity	+	- Check tolerance - cm3/1000s. : 12.0
cm3/1000 strokes Tolerance	: 23.0	• •
cm3/1000 strokes Check tolerance	: + 3.0	- CONTROL LEVER
cm3/1000s.	: ∻- 6.0	-
Spreed Tolerance	+	- control lever - position degree : 120.0
cm3/1000 strokes Check tolerance	: 8.0	- tolerance degree : +- 4.0 -
cm3/1000s.	: 12.0	- RATED SPEED - rack travel mm : 13.80
(0) 0577110 05 111	IFOTTON BUND	- Rated speed rpm : 1145
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	- Tolerance 1/min : +- 8 -
		- rack travel mm : 4.00 - Rated speed rpm : 1256
GUIDE SLEEVE TRAV	EL	- Tolerance 1/min : +- 15
Rated speed rpm	: 1157	- rack travel mm : 0.50 - Tolerance mm : +- 0.50
guide steeve travel mm	: 19.23	- Rated speed rpm : 1400
Tolerance mm	: +- 0.15	- -
Rated speed rpm guide sleeve	: 300	
travel mm	: 1.69	- I.OW IDILE
Tolerance mm	: +- 0.20	- -
Rated speed rpm guide sleeve	: 792	- control lever - position degree : 73.0
travel mm Tolerance mm	: 6.51 : + 0.25	- tolerance degree : +- 4.0
	+	- Setting point w/out bumper spring
Rated speed rpm guide sleeve	: 470	- - Rated speed rpm : 200
travel mm Tolerance mm	: 3.81 : + 0.25	- - CRT mm min. :> 6.70
Rated speed rpm	: 1390	- - Testing:
guide sleeve travel mm	: 13.50	- Rated speed rpm : 300

rack travel mm Tolerance mm	: 5.20 : ← 0.10	FUEL DELTUEDY CHARACTERISTICS
Rated speed rpm	: 326	FUEL DELIVERY CHARACTERISTICS
TORQUE CONTROL Rated speed rpm rack travel mm	: 14.80	Aneroid pressure hPa : 2000 Rated speed rpm : 900 Del. quantity
Rated speed rpm	: 900	cm3/1000 strokes : 285.0 Tolerance cm3/1000 strokes : +- 3.0
rack travel mm Tolerance mm	: ← 0.10	theck tolerance cm3/1000s. : +- 6.0
Rated speed rpm rack travel mm Tolerance mm	: 13.30	Aneroid pressure hPa : 2000 Rated speed rpm : 600 Del. quantity
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes : 305.0 Tolerance cm3/1000 strokes : +- 3.0
SETTING		Check tolerance cm3/1000s. : + 6.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 2000 : 14.80	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: -	cm3/1000 strokes : 180.0 Tolerance cm3/1000 strokes : +- 1.0
Tolerance mm MEASUREMENT	: ← 0.10	theck tolerance cm3/1000s. : + 4.0
Rated speed rpm	: 1100	STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm	: 250 : 9.65 : + 0.05	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 220.0
Pressure hPa rack travel mm Tolerance mm	: 1000 : 13.30 : + 0.15	Tolerance + cm3/1000 strokes : +- 15.0 + Check tolerance
Start interlock		
Rated speed rpm Rated speed rpm	: > 100 : < 220	LOW IDLE
Check speed 1/min	: > 80	Rated speed rpm : 300
Check speed 1/min	: < 240	Rack travel in mm: 5.20 Tolerance mm: + 0.10 Del. quantity
		+ cm3/1000 strokes : 23.0

Tolerance			
cm3/1000 strokes	; +	3.0	
Check tolerance			
cm3/1000s.	: <-	6.0	
Spreed			
Tolerance			
cm3/1000 strokes	:	8.0	
Check tolerance			
cm3/1000s.	•	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.05.97 Test oil : ISO 4113

Combination No. : 0 402 746 910

Injection pump

Pump designation: PES6P120A720LS7209

: -1

EP type number : 0 412 726 849

Governor

Governer design. : RQV300...1100PA1006K

Governer no. : 0 421 815 283

Cust. part No. : 51.11103-7071

Customer—spec. information

Customer : MAN

Motor : D2866LXE

Power KW : 324.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 4.85 : +- 0.05 Prestroke mm Tolerance nm

Check

tolerance mm : +- 0.10

Rack travel in mm : 13.00 Tolerance mm : \leftarrow 0.50

Firing order : 6-2-4-1-5-

: 3

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.05 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 253.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000S. : +- 4.0

Spreed

	+ Rated speed rpm : 1100
Tolerance cm3/ 1000 strokes : 5.0	+ Aneroid pressure + hPa : 1200
Check tolerance cm3/1000s. : 9.0	Del. quantity cm3/1000 strokes : 253.0
cm3/1000s. : 9.0	Tolerance : + 1.0
Datasi annal man 200	Check tolerance cm3/1000s. : +- 4.0
Rated speed rpm : 300	+ Spreed + Tolerance
Rack travel in mm : 5.00 Tolerance mm : +- 0.10	cm3/1000 strokes : 5.0 Check tolerance
Del. quentity cm3/1000 strokes : 23.0	cm3/1000s. : 9.0
Tolerance cm3/1000 strokes : +- 3.0	
Check tolerance cm3/1000s. : +- 6.0	CONTROL LEVER
Spreed	control lever
Tolerance cm3/1000 strokes : 8.0	+ position degree : 118.0 + tolerance degree : +- 4.0
Check tolerance	+
cm3/1000s. : 12.0	+ RATED SPEED + rack travel mm : 12.00
(0) 0777110 07 7117077011 01110	Rated speed rpm : 1145
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : + 5
	rack travel mm : 4.90
GUIDE SLEEVE TRAVEL	+ Rated speed rpm : 1250 + Tolerance 1/min : +- 15
Rated speed rpm : 1156	rack travel mm : 0.50
guide sleeve travel mm : 10.06	+ Tolerance mm : +- 0.50 + Rated speed rpm : 1400
Tolerance mm : + 0.15	+ Nated Speed (pill : 1400
Rated speed rpm : 300	<u>†</u>
guide sleeve	
travel mm : 1.77 Tolerance mm : + 0.20	+ LOW IDLE
toterance mm : + 0.20	Į
Rated speed rpm : 833	control lever position degree : 72.0
guide sleeve travet mm : 6.98	tolerance degree : +- 4.0
Tolerance mm : + 0.25	Setting point w/out bumper spring
Rated speed rpm : 500	+ setting point wroat bumper spring
guide sleeve travel mm : 3.78	Rated speed rpm : 200
travel mm : 3.78 Tolerance mm : + 0.25	CRT mm min. :> 6.50
Rated speed rpm : 1420	Testing:
guide sleeve travel mm : 13.50	+ Rated speed rpm : 300
Tolerance mm : +- 0.50	rack travel mm : 5.00 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	TOPOLIE CONTROL
	- ICINIALE ICAVINCI

TORQUE CONTROL

Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: 13.05 : + 0.05 : 900 : 11.80 : + 0.10 : 700 : 11.10	Aneroid pressure hPa : 1200 Rated speed rpm : 900 Del. quantity cm3/1000 strokes : 225.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm rack travel mm Tolerance mm	500	Aneroid pressure hPa : 1200 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 221.0 Tolerance cm3/1000 strokes : + 3.0
COMPENSATOR TEST		Check tolerance cm3/1000s. : +- 6.0
SETTING		Ananašii procesus
Rated speed rom Pressure hPa rack travel mm Tolerance mm	: 1200 : 13.05	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 167.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	9.10	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
MEASUREMENT		Ţ
Rated speed rpm	: 1100	STARTING FUEL DELIVERY Rated speed rpm : 100
Pressure hPa rack travel mm Tolerance mm	: 12.20	Del. quantity cm3/1000 strokes : 220.0 Tolerance
Pressure hPa rack travel mm Tolerance mm	: 9.45	cm3/1000 strokes : +- 15.0 Check tolerance cm3/1000S. : +- 19.0
Start interlock		LOW IDLE
Rated speed rpm Rated speed rpm	: > 100 : < 220	Rated speed rpm : 300
Check speed 1/min Check speed 1/min		Rack travel in mm: 5.00 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 23.0 Tolerance
FUEL DELIVERY CHA	ARACTERISTICS	cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 28.05.97

Test oil

: ISO 4113

Combination No. : 9 400 087 437

Injection pump

Pump designation : PE6P110A320RS3108Y

EP type number : 0 411 816 729

Governor

Governer design. : RQV250...1100PA589

: -3

Governer no.

. 9 420 080 288

Cust. part No. :

Customer-spec. information

Customer

: VOLVO-TRUCK

Motor

: THD 100 EC

Power KW

: 180.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. *C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

173.5

Tolerance bar

: **←** 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

K28

x inside diameter: 3.0 x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0

Tolerance bar : + 1.0

Prestroke mm 3.05

Tolerance mm

: +- 0.05

Cneck

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance

: + 0.50

Check

tolerance °NW

: +- 0.75

BASIC SETTING

Rated speed rpm :

700

Rack travel in mm : 11.15

Tolerance mm

: +- 0.05

Del. quantity

cm3/1000 strokes : 139.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: +- 4.0

Spreed

Tolerance cm3/1000 strokes : 4.0	control lever
Check tolerance cm3/1000S. 7.5	position degree : - 1 Rated speed rpm : 1175
	Rack travel in mm : 16.50 Tolerance mm : + 1.30
Rated speed rpm : 250	FILL LOAD DELTHERY AT FILL LOAD CTOD
Rack travel in mm : 5.30	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.10	Rated speed rpm : 700
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 32.0	hPa : 900
Tolerance cm3/1000 strokes : +- 2.5	+ Del. quantity + cm3/1000 strokes : 139.0
Check tolerance	Tolerance
cm3/1000s. : +- 1, /	+ cm3/1000 strokes : +- 1.0
Spreed	Check tolemance
Tolerance	+ cm3/1000\$. : +- 4.0
cm3/1000 strokes : 4.5	Spreed
Check tolerance cm3/1000s. : 7.5	Tolerance cm3/1000 strokes : 4.0
· · · · · · · · · · · · · · · · · · ·	Check tolerance
	+ cm3/1000s. : 7.5
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
	CONTROL LEVER
GUIDE SLEEVE TRAVEL	
	+ control lever
Rated speed rpm : 950	+ position degree : 65.0
guide sleeve travel mm : 6.50	tolerance degree : +- 4.0
Tolerance mm : +- 0.20	r control lever
TO COT COTTON THE COTTON	+ position degree : 119.0
Rated speed rpm : 250	tolerance degree : +- 4.0
guide steeve	+
travel mm : 1.29 Tolerance mm : +- 0.10	+ RATED SPEED
Tolerance mm : +- 0.10	+ rack travel mm : 10.10 + Rated speed rpm : 1165
Rated speed rpm : 500	+ Tolerance 1/min : + 5
	}
guide sleeve travel mm : 4.50 Tolerance mm : + 0.40	+ rack travel mm : 4.00 + Rated speed rpm : 1240
Tolerance mm : + 0.40	Rated speed rpm : 1240
Rated speed rpm : 700	† Tolerance 1/min : + 15
	rack travel mm : 0.50
guide sleeve travel mm : 6.50 Tolerance mm : + 0.20	+ Tolerance mm : + 0.50
Tolerance mm : + 0.20	Tolerance mm : + 0.50 Rated speed rpm : 1350
	†
Rated speed rpm : 1100	Ì
guide sleeve travel mm : 7.25	Ţ <u></u>
travel mm : 7.25 Tolerance mm : + 0.25	LOW IDLE
CUIDE OF FUE DOCUTION	†
GUIDE SLEEVE POSITION	+ control lever + position degree : 64.0
	tolerance degree : +- 4.0
	1 Cotto di la Cotto de Cotto d

control lever position degree : 12.0 tolerance degree : +- 4.0 Scitting point w/out bumper spring Rated speed rpm : 100 CRT mm min. : > 6.70 Testing: Rated speed rpm : 250 rack travel mm : 5.30 : +- 0.10 Tolerance mm Rated speed rpm : 338 TORQUE CONTROL Rated speed rpm : 700 rack travel mm : 11.15 : +- 0.05 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 900 rack travel mm : 11.15 : +- 0.05 Tolerance mm Rated speed rpm : 500 Pressure hPa **MEASUREMENT** Rated speed rpm : 500 430 1.20 Pressure hPa : rack travel mm : : +- 0.10 Tolerance mm 280 Pressure hPa 0.25 rack travel mm : +- 0.05 Tolerance mm FUEL DELIVERY CHARACTERISTICS

Del. quantity cm3/1000 strokes : 107.0 Tolerance cm3/1000 strokes : +- 1.0Check tolerance : +- 4.0 cm3/1000s. STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm : 20.50 : +- 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 170.0 Tolerance cm3/1000 strokes : + 10.0Check tolerance : +- 14.0 cm3/1000s. LOW IDLE Rated speed rpm : 250 Rack travel in mm : 5.30 Tolerance mm : +- C.10 Del. quantity cm3/1000 strokes : 32.0 Tolerance cm3/1000 strokes : +- 2.5 Check tolerance : +cm3/1000s.5.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance : 7.5 cm3/1000s.

End of test specification sheet

Aneroid pressure

hPa : - 700

L02

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 28.05.97 : ISO 4113

Combination No. : 9 400 087 497

Injection pump

Pump designation : PES6P120A120RS3344

EP type number : 9 400 087 090

Governor

Governer design. : RQV350...1100PA1207

Governer no. : 9 420 080 379

Cust. part No. : 3355976

Customer-spec. information

Customer : CUMMINS Motor

: 6 CTAA - 290

Power KW

: 214.6

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 3.0

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

Tolerance bar : + 1.5

Test Lines : 1 680 750 008

x inside diameter : 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.15 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 15.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 7.50 : + 0.10 Tolerance

Check

tolerance "NW : +- C.23

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 15.55

Tolerance mm : +- 0.05

Del. quantity	+ Tolerance mm : +- 0.25
cm3/1000 strokes : 207.0	+
	+ Rated speed rpm : 1400
Tolerance	guide sleeve
cm3/1000 strokes : + 1.0	travel mm : 10.55
	+ Tolerance mm : + 0.25
Check tolerance	Total diloc limit
cm3/1000s. : +- 4.0	
(110) 100001	GUIDE SLEEVE POSITION
Spreed	- T GOIDE SLEEVE POSITION
Spr eed	T
Talamana	T combact loves
Tolerance	control lever
cm3/1000 strokes : 5.0	position degree : - 1
Al and a decimal and a second a	+ Rated speed rpm : 1150
Check tolerance	†
cm3/1000S. : 9.0	† Rack travel in mm : 16.50
	+ Tolerance mm : + 1.30
	+
Rated speed rpm : 325	+ FULL LOAD DELIVERY AT FULL LOAD STOP
	†
Rack travel in mm : 6.80	+ Rated speed rpm : 1100
Tolerance mm : +- 0.10	+ Aneroid pressure
Del. quantity	+ hPa : 1300
cm3/1000 strokes : 44.0	<pre>Del. quantity</pre>
Tolerance	+ cm3/1000 strokes : 207.0
cm3/1000 strokes : +- 3.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000s. : +- 6.0	+ Check tolerance
Spreed	+ cm3/1000s. : ÷- 4.0
Tolerance	Spreed
cm3/1000 strokes : 8.0	Tolerance
Check tolerance	+ cm3/1000 strokes : 5.0
cm3/1000s. : 12.0	+ Check tolerance
	- cm3/1000s. : 9.0
(D) SETTING OF THIS COTION DUMO	†
(B) SETTING OF INJECTION PUMP	<u>†</u>
WITH GOVERNOR	CONTROL LEVED
	CONTROL LEVER
CHARE OF CELLE ADMICE	- +
GUIDE SLEEVE TRAVEL	control lever
Detail aread was (50	position degree : 63.0
Rated speed rpm : 650	tolerance degree : +- 4.0
guide sleeve	†
travel mm : 5.55	control lever
Tolerance mm : +- 0.25	+ position degree : 118.0
	tolerance degree : +- 4.0
Rated speed rpm : 1150	+
guide sleeve	+ RATED SPEED
travel mm : 8.40	† rack travel mm : 14.50
Tolerance mm : + 0.10	Rated speed rpm : 1150
	Tolerance 1/min : +- 5
Rated speed rpm : 350	+
guide steeve	+ rack travel mm : 4.00
	Rated speed rpm : 1360
travel mm : 1.55	
travel mm : 1.55 Tolerance mm : + 0.25	
travel mm : 1.55 Tolerance mm : + 0.25	Tolerance 1/min : + 15
Tolerance mm : +- 0.25	Tolerance 1/min : +- 15
Tolerance mm : + 0.25 Rated speed rpm : 500	Tolerance 1/min : + 15 rack travel mm : 0.50
Tolerance mm : +- 0.25 Rated speed rpm : 500 guide sleeve	Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Tolerance mm : + 0.25 Rated speed rpm : 500	Tolerance 1/min : + 15 rack travel mm : 0.50

OM IDLE	
control lever position degree tolerance degree	: 69.0 : +- 4.0
control lever position degree tolerance degree	: 14.0 : +- 4.0
Setting point w/ou	ut bumper spring
Rated speed rpm	: 100
CRT mm min.	: > 9.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : 6.80 : → 0.10
Rated speed rpm	: 375
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 15.55 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 15.95 : ← 0.05
Rated speed rpm rack travel mm Folerance mm	: 720 : 15.95 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 960 : 15.55 : ← 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm	: 500 : 1300 : 15.95

MEASUREMENT		
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 800 : 2.65 : + 0.15	
Pressure hPa rack travel mm Tolerance mm	: 400 : 1.00 : + 0.10	
Start interlock		_
Rated speed rpm Rated speed rpm	: > 100 : < 270	
Check speed 1/min	: > 80	
Check speed 1/min	: < 290	
Aneroid pressure hPa	. 4700	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 217.0 : +- 2.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 700 : 217.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 700 : 217.0 : +- 2.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 700 : 217.0 : +- 2.0 : +- 5.0 : : 500	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 700 : 217.0 : + 2.0 : + 5.0 : 500 : 125.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 700 : 217.0 : + 2.0 : + 5.0 : 500 : 125.0 : + 1.0 : + 4.0	

Rated speed rpm :

500

Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0

LOW IDLE

325 Rated speed rpm : 6.80 Rack travel in mm : : + 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 44.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.05.97 Test oil : ISO 4113

Combination No. : 0 400 462 049

Injection pump

Pump designation : PES2A65D410/3RS1273

EP type number : 0 410 462 995

Governor

Governer design. : RSV400...1225A1C1091

: DL

Governer no. : 0 420 232 386

Cust. part No. :

Customer—spec. information Customer : HOLDER

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-2

Phasing: 0-90

BASIC SETTING

Rated speed rpm : 1225

Rack travel in mm : 10.85 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 40.5

Tolerance cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 1.5

Spreed

Tolerance

cm3/1000 strokes : 2.0

Check tolerance

cm3/1000s. : 3.0

Rated speed rpm : 400

Rack travel in mm: 7.30 Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 12.5

Tolerance

cm3/1000 strokes : + 3.0

Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: +- 4.5	+	Tolerance mm Rated speed rpm	
Check tolerance cm3/1000s.	: 3.0	D #	LOW IDLE	
(B) SETTING OF IN WITH GOVERNOR	JECTION PU	MP T	control lever position degree tolerance degree	
GUIDE SLEEVE POSI	TION		Setting point w/o	ut bumper spring
control lever		+++++++++++++++++++++++++++++++++++++++	Rated speed rpm rack travel mm Tolerance mm	: 400 : 7.80 : +- 0.10
Rated speed rpm		+	Rated speed rpm	: 100
Rack travel in mm Tolerance mm			CRT mm min.	: > 19.00
, a c o , a , c o , nam		+	Testing:	
FULL LOAD DELIVER		LOAD STOP	Rated speed rpm rack travel mm Tolerance mm	: 400 : 7.30 : +- 0.10
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: - : 40.	5 †	rack travel mm Rated speed rpm Tolerance 1/min	: 590
cm3/1000 strokes Check tolerance	: +- 0.5	5	Rated speed rpm	: 700
cm3/1000s. Spreed Tolerance	: + 1.5	5	CRT mm max.	: < 1.00
cm3/1000 strokes Check tolerance cm3/1000s.	: 2.0	+	TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	
CONTROL LEVER			Rated speed rpm rack travel mm Tolerance mm	: 11.20
control lever position degree tolerance degree	: 66.0 : +- 4.0		Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.45 : + 0.05
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min		5		
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1310 : + 1	+	FUEL DELIVERY CHA	RACTERISTICS
rack travel mm	: 1.00	+	hPa Rated speed rpm	: - : 1000

Del. quantity cm3/1000 strokes : 40.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Aneroid pressure hPa Rated speed rpm 500 Del. quantity cm3/1000 strokes : 38.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : +- 2.5 STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm : 20.25 Tolerance mm : +- 0.75 Del. quantity cm3/1000 strokes : 71.0 Tolerance cm3/1000 strokes : +- 5.0Check tolerance cm3/1000s.: +- 8.0 LOW IDLE Rated speed rpm : 400 Rack travel in mm: 7.30 Tolerance mm 0.10 Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance 4.5 cm3/1000s. Spreed Tolerance cm3/1000 strokes : 2.0 Check tolerance

3.0

End of test specification sheet

cm3/1000s.

BOSCH INJ. PUMP TEST SPECIFICATIONS
Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 26.05.97 Test oil : ISO 4113

Combination No. : C 400 864 104

Injection pump

Pump designation : PES4A95D410/3RS2789

EP type number : 0 410 894 995

Covernor

Governer design. : RSV325...1250A5C877L

Governer no. : 0 420 232 632

Cust. part No. : 0423 2047 KY

Customer—spec. information
Customer : KHD-DMI
Motor : BF4L 913 C
Power KW : 78.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x langth mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.70

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 92.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : + 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5	theck tolerance cm3/1000s. : 8.0
Check tolerance cm3/1000s. 8.0	
	CONTROL LEVER
	control lever
Rated speed rpm : 325	<pre>position degree : 104.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 8.50	+
Tolerance mm : + 0.10	+ RATED SPEED
Del. quantity	+ rack travel mm : 11.70
cm3/1000 strokes : 11.5	+ Rated speed rpm : 1295
Tolerance	+ Tolerance 1/min : + 5
cm3/1000 strokes : +- 2.0	+
Check_tolerance	+ rack travel mm : 4.00
cm3/1000s. : +- 4.5	Rated speed rpm : 1355
keend ²	† Tolerance 1/min : + 15
Tolerance	†
cm3/1000 strokes : 5.5	+ rack travel mm : 0.85
Check tolerance cm3/1000s. : 9.0	+ Tolerance mm : +- 0.55
cm3/1000s. : 9.0	Rated speed rpm : 1555
	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1405
WITH GOVERNOR	+ Tolerance 1/min : +- 15
	LOW IDLE
control lever	+
position degree : FREE	+ control lever
Rated speed rpm : 800	<pre>position degree : 70.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 0.50	T coterance degree : 4.0
Tolerance mm : + 0.20	Setting point w/out bumper spring
governor spring	Rated speed rpm : 325
ore-tension	+ rack travel mm : 8.00
click setting x : 3.50	Tolerance mm : +- 0.10
THE LOAD DELTHEN AT THE LOAD STOR	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	T CRT mm min. : > 19.50
Rated speed rpm : 1250	-
Aneroid pressure	+ Testing:
nPa : -	+
Del. quantity	+ Rated speed rpm : 325
cm3/1000 strokes : 92.0	+ rack travel mm : 8.50
Tolerance	+ Tolerance mm : +- 0.10
cm3/1000 strokes : +- 1.0	+
Check tolerance	+ rack travel mm : 2.00
cm3/1000s. : +- 3.0	Rated speed rpm : 580
Spreed Tolerance	+ Tolerance 1/min : +- 30
m3/1000 strokes : 3.5	+
	+ TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 12.70 Tolerance mm **:** +- 0.05

Rated speed rpm 500

STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm : 20.25 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 130.0 Tolerance

cm3/1000 strokes : +- 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

8.50 Rack travel in mm : Tolerance mm : +- 0.10 Del. quantity

cm3/1000 strokes : 11.5 Tolerance

cm3/1000 strokes : +-2.0 Check tolerance

cm3/1000s.

: +- 4.5 Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.05.97 : ISO 4113 Test oil

Combination No. : 0 400 865 028

Injection pump

Pump designation : PES5A95D410/3RS2906

EP type number : 0 410 895 971

Governor

Governer design. : RSV325...1250A5c858L

Governer no. : 0 420 232 621

Cust. part No. : 0423 1598 KY

Customer-spec. information Customer : KHD-DMI

: F5L912/913_NEU Motor

Power KW : 67.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 3.00 Tolerance mm : +- 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

: 1-3-5-4-2 Firing order

: 0-72-144-216-288 Phasing

Tolerance : +- 0.50

Check

tolerance 'NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.80

: +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 70.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 3.0 cm3/1000s.

Spreed

Tolerance cm3/1000 strokes : 3.5 Check tolerance	Check tolerance cm3/1000s. : 8.0
cm3/1000s. : 8.0	CONTROL LEVER
Rated speed rpm : 325	<pre>control lever position degree : 109.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 8.50 Tolerance mm: + 0.10 Del. quantity	RATED SPEED rack travel mm : 9.80
cm3/1000 strokes : 11.5 Tolerance cm3/1000 strokes : +- 2.0	Rated speed rpm : 1295 Tolerance 1/min : +- 5
Check tolerance cm3/1000S. : + 4.5	rack travel mm : 4.00 Rated speed rpm : 1355 Tolerance 1/min : +- 15
cm3/1000 strokes : 5.5 Check tolerance cm3/1000S. : 9.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1550
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1400 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : FREE Rated speed rpm : 800	control lever position degree : 75.0 tolerance degree : +- 4.0
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Setting point w/out bumper spring
governor spring pre-tension click setting x : 4.75	Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1250	CRT mm min. : > 19.50 Testing:
Aneroid pressure hPa : - + + + + + + + + + + + + + + + + + +	Rated speed rpm : 325
cm3/1000 strokes : 70.0 + Tolerance cm3/1000 strokes : + 1.0 + 1.0	rack travel mm : 8.50 Tolerance mm : +- 0.10
Check tolerance cm3/1000s. : + 3.0 spreed	rack travel mm : 2.00 Rated speed rpm : 610 Tolerance 1/min : +- 30
Tolerance + cm3/1000 strokes : 3.5 +	

Rated speed rpm : 1250 rack travel mm : 10.80 Tolerance mm : +- 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 130.0
Tolerance
cm3/1000 strokes : + 7.5
Check tolerance

: **←** 10.0

LOW IDLE

cm3/1000s.

Rated speed rpm : 325

Rack travel in mm : 8.50
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 11.5

Tolerance cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.5 Spreed

Tolerance cm3/1000 strokes : 5.5

Check tolerance cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 28.05.97 Edition Test oil : ISO 4113

Combination No. : 0 400 866 222

Injection pump

Pump designation : PES6A95D410/3RS2907

EP type number : 0 410 896 884

Governor

Governer design. : RSV325...1250A5C858L

: 0 420 232 621 Governer no.

Cust. part No. : 0423 1601 KY

Customer-spec. information Customer : KHD-DMI

: F6L912/913 NEU Motor

Power KW : 81.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

: 1 419 992 198 Overflow valve

Inlet press, bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

173.5 Tolerance bar

: 1 680 750 014 Test lines

Outside diameter : 6.0

x inside diameter: 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 3.00 : +- 0.05 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: **0-60-120-180-**240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: +-3.0

Spreed		+ Tolerance + cm3/1000
Tolerance cm3/1000 strokes	: 3.5	Check tol
Check tolerance cm3/1000s.	: 8.0	-
		_ + CONTROL L
	705	+ control l
Rated speed rpm	: 325	+ position + tolerance
Rack travel in mm		+
Tolerance mm	: +- 0.10	+ RATED SPE
Del. quantity cm3/1000 strokes	: 11.5	+ rack trav
Tolerance	. 11.2	+ Tolerance
cm3/1000 strokes	: +- 2.0	+
Check tolerance		rack trav
cm3/1000s.	: +- 4.5	+ Rated spe
Spreed Tolerance		Tolerance
cm3/1000 strokes	: 5.5	rack trav
Check tolerance		Tolerance
cm3/1000s.	: 9.0	+ Rated spe
		rack trav
(B) SETTING OF IN	JECTION PUMP	
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	
	JECTION PUMP	
WITH GOVERNOR		+ Rated spe + Tolerance +
WITH GOVERNOR		
WITH GOVERNOR GUIDE SLEEVE POSI		Tolerance
GUIDE SLEEVE POSI	TION	Tolerance
WITH GOVERNOR GUIDE SLEEVE POSI control lever position degree	TION:	Tolerance LOW IDLE control l position
WITH GOVERNOR GUIDE SLEEVE POSI control lever position degree Rated speed rpm	: FREE : 800	Tolerance LOW IDLE control l position
WITH GOVERNOR GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm	: FREE : 800 : 0.50	LOW IDLE control l position tolerance
WITH GOVERNOR GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm	: FREE : 800	LOW IDLE control l position tolerance
WITH GOVERNOR GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm Tolerance mm	: FREE : 800 : 0.50	LOW IDLE control l position tolerance Setting p
GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension	: FREE : 800 : 0.50 : + 0.20	LOW IDLE control l position tolerance Setting p Rated spe
GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension	: FREE : 800 : 0.50 : + 0.20	LOW IDLE control position tolerance Setting R Rated spe
WITH GOVERNOR GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x	FREE: 800: + 0.50: + 0.20: 4.25	LOW IDLE control position tolerance Setting R Rated spe rack tray Tolerance
WITH GOVERNOR GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x	: FREE : 800 : 0.50 : + 0.20	LOW IDLE control position tolerance Setting R Rated spe rack tray Tolerance Rated spe
WITH GOVERNOR GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVER	FREE: 800 : 0.50 : + 0.20 : 4.25 Y AT FULL LOAD STOP	LOW IDLE control position tolerance Setting R Rated spe rack tray Tolerance Rated spe
GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVER	FREE: 800: + 0.50: + 0.20: 4.25	LOW IDLE control position tolerance Setting R Rated spe rack trav Tolerance Rated spe
GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVER' Rated speed rpm Aneroid pressure hPa	FREE: 800 : 0.50 : + 0.20 : 4.25 Y AT FULL LOAD STOP	Tolerance LOW IDLE control l position tolerance Setting p Rated spe rack trav Tolerance Rated spe CRT mm mi Testing:
GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVER' Rated speed rpm Aneroid pressure hPa Del. quantity	FREE: 800 : 0.50 : + 0.20 : 4.25 Y AT FULL LOAD STOP : 1250 : -	Tolerance LOW IDLE control l position tolerance Setting R Rated spe rack trav Tolerance Rated spe CRT mm mi Testing: Rated spe
GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVER' Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	FREE: 800 : 0.50 : + 0.20 : 4.25 Y AT FULL LOAD STOP : 1250 : -	Tolerance LOW IDLE control l position tolerance Setting p Rated spe rack trav Tolerance Rated spe CRT mm mi Testing: Rated spe rack trav
GUIDE SLEEVE POSITO control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVER' Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	FREE: 800 : 0.50 : + 0.20 : 4.25 Y AT FULL LOAD STOP : 1250 : - : 76.0	LOW IDLE control l position tolerance Rated spe rack trav Tolerance Rated spe
GUIDE SLEEVE POSI control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVER' Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	FREE: 800 : 0.50 : + 0.20 : 4.25 Y AT FULL LOAD STOP : 1250 : - : 76.0	Tolerance LOW IDLE control l position tolerance Setting p Rated spe rack trav Tolerance Rated spe CRT mm mi Testing: Rated spe rack trav
GUIDE SLEEVE POSITO Control lever position degree Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVER' Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	FREE: 800 : 0.50 : + 0.20 : 4.25 Y AT FULL LOAD STOP : 1250 : - : 76.0	LOW IDLE control l position tolerance Setting r Rated spe rack trav Tolerance Rated spe cRT mm mi Testing: Rated spe rack trav Tolerance

cm3/1000 strokes Check tolerance cm3/1000s.	: 3.5
CM3/10005.	: 8.0
CONTROL LEVER	
control lever position degree tolerance degree	: 107.0 : +- 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 10.35 : 1295 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1355 : + 15
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1550
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1400 : + 15
LOW IDLE	
LOW IDLE control lever position degree tolerance degree	: 73.0 : +- 4.0
control lever	: +- 4.0
control lever position degree tolerance degree	: +- 4.0 ut bumper spring : 325
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm	: +- 4.0 ut bumper spring : 325 : 8.00 : +- 0.10
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Tolerance mm	: +- 4.0 ut bumper spring : 325 : 8.00 : +- 0.10
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: +- 4.0 ut bumper spring : 325 : 8.00 : +- 0.10 : 100
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min.	: +- 4.0 ut bumper spring : 325 : 8.00 : +- 0.10 : 100 : > 19.50 : 325

TORQUE CONTROL

Rated speed rpm

1250

rack travel mm

11,35

Tolerance mm

: +- 0.05

Rated speed rpm

500

STARTING FUEL DELIVERY

Rated speed rpm

100

rack travel mm

20.25

Tolerance mm

: +- 0.75

Del. quantity

cm3/1000 strokes : Tolerance

130.0

cm3/1000 strokes : +-

7.5

Check tolerance cm3/1000s.

: ÷- 10.0

LOW IDLE

Rated speed rpm :

325

Rack travel in mm:

8.50

Tolerance nm Del, quantity 0.10

cm3/1000 strokes :

11.5

Tolerance

cm3/1000 strokes : +-

2.0

Check tolerance cm3/1000s.

Spreed

Tolerance

5.5

cm3/1000 strokes :

Check tolerance cm3/1000s.

9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.05.97 Test oil : ISO 4113

Combination No. : 0 400 866 227

Injection pump

Pump designation: PES6A95D410/3RS2907

EP type number : 0 410 896 884

Governor

Governer design. : RSV325...1250A5C870L

Governer no. : 0 420 232 625

Cust. part No. : 0423 1964 KY

Customer-spec. information Customer : KHD-DMI : BF6L 913 Motor : 118.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C : -- 2.0 Tolerance *C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

173.5 Tolerance bar : +- 1.5

: 1 680 750 014 Test lines

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestruke mm 3.00 : +- 0.05 Tolerarice mm

Check

: + 0.10 tolerance mm

Pack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing **: 0-60-120-180-**240

: -300

Tolerance : **←** 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

1250 Rated speed rpm :

Rack travel in mm : 13.00 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 82.5

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed	Tolerance
Tolerance	cm3/1000 strokes : 3.5 Check tolerance
cm3/1000 strokes : 3.5	- cm3/1000s. : 8.0
Check tolerance	
cm3/1000s. : 8.0	
	CONTROL LEVER
3	control lever
Rated speed rpm : 325	position degree : 103.0
	tolerance degree : +- 4.0
Rack travel in mm: 9.60	
Tolerance mm : +- 0.10	RATED SPEED
Del. quantity - cm3/1000 strokes : 14.5 -	rack travel mm : 12.00 Rated speed rpm : 1295
Tolerance	Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0	-
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 4.5	Rated speed rpm : 1355
Spreed Tolerance	- Tolerance 1/min : +- 15
cm3/1000 strokes : 5.5	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- G.55
cm3/1000S. : 9.0 -	- Rated speed rpm : 1565
†	
(B) SETTING OF INJECTION PUMP	- rack travel mm : 4.00 - Rated speed rpm : 1415
WITH GOVERNOR	Tolerance 1/min : +- 15
1	
1	
GHIDE SLEEVE DOSITION	
GUIDE SLEEVE POSITION -	L OW IDLE
GUIDE SLEEVE POSITION	LOW IDLE
control lever	
control lever	control lever
control lever	control lever position degree : 70.0
control lever - position degree : FREE - Rated speed rpm : 800 -	control lever
control lever	control lever position degree : 70.0
control lever position degree : FREE Rated speed rpm : 800 - Rack travel in mm : 0.50 Tolerance mm : +- 0.20 -	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring
control lever position degree : FREE Rated speed rpm : 800 Rack travel in am : 0.50 Tolerance mm : +- 0.20 governor spring	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in am : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 9.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in am : 0.50 Tolerance mm : +- 0.20 governor spring	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.25	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 9.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in am : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 9.10 Tolerance mm : + 0.10 Testing:
control lever position degree : FREE Rated speed rpm : 800 Rack travel in am : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 3.25 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 9.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in am : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 9.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in am : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 3.25 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 9.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 9.60 fetcance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 800 Rack (ravel in am : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 9.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 9.60 Telerance mm : + 0.10 rack travel mm : 2.00
control lever position degree : FREE Rated speed rpm : 800 Rack travel in imm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 82.5	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 9.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 9.60 Telerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 610
control lever position degree : FREE Rated speed rpm : 800 Rack travel in imm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 82.5 Tolerance	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 9.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 9.60 Telerance mm : + 0.10 rack travel mm : 2.00
control lever position degree : FREE Rated speed rpm : 800 Rack travel in im : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 82.5 Tolerance cm3/1000 strokes : + 1.0	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 9.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 9.60 Telerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 610
control lever position degree : FREE Rated speed rpm : 800 Rack travel in imm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 82.5 Tolerance	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 9.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 9.60 faterance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 610 Tolerance 1/min : + 30
control lever position degree : FREE Rated speed rpm : 800 Rack travel in im : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 3.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 82.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 9.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 9.60 Telerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 610 Tolerance 1/min : + 30

Tolerance mm	: +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 14.10 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.90 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1000 : 14.10 : + 0.10
Rated speed rpm Fressure hPa rack travel mm Tolerance mm	: 500 : - : 13.30 : ← 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 250 : 13.80 : + 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1000 : 750
Del. quantity cm3/1000 strokes Tolerance	: 85.0
cm3/1000 strokes Check tolerance	: 2.0
cm3/1000s.	: +- 4.0
Aneroid pressure	: -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes Tolerance	: 69.5
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: + 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 7.5 Check tolerance cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : 325 Rack travel in mm : 9.60 Tolerance am : ← 0.10 Del. quantity cm3/1000 strokes : 14.5 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance : 9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 23,05,97 : ISO 4113

Combination No. : 0 400 866 229

Injection pump

Pump designation : PES6A95D410/3RS2907

EP type number : 0 410 896 884

Governor

Governer design. : RSV325...1250A5C873L

Governer no.

: 0 420 232 628

Sust. part No. : 0423 2077 KY

Customer-spec, information Customer : KHD-DMI Motor : BF6L 913 Power KW : 118.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance *C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 014

Outside diameter :

6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 3.00 Tolerance mm : + - 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: + 0.50Tolerance

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 13.00 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes :

82.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 8.0

Rated speed rpm : 325

Rack travel in mm : 9.60 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 14.5

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. : 9.0

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever

position degree : FREE Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : + 0.20

governor spring

pre-tension

click setting x: 3.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure

hPa : 1000

Del. quantity

cm3/1000 strokes : 82.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 8.0

CONTROL LEVER

control lever

position degree : 103.0 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 12.00
Rated speed rpm : 1295
Tolerance 1/min : +- 5

rack travei mm : 4.00
Rated speed rpm : 1355
Tolerance 1/min : +- 15

rack travel mm : 0.85
Tolerance mm : ÷ 0.55
Rated speed rpm : 1565

rack travel mm : 4.00
Rated speed rpm : 1415
Tolerance 1/min : + 15

LOW IDLE

control lever

position degree : 70.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325 rack travel mm : 9.10 Tolerance mm : +- 0.10

Testing:

Rated speed rpm : 325 rack travel mm : 9.60 Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 610
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 13.00

Tolerance mm	: +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 14.10 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.90 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	

SETTING

Rated speed rpm	:	500
Pressure hPa	:	1000
rack travel mm	:	14.10
Tolerance mm	: +	- 0.10
Rated speed rpm	:	500
Pressure hPa	;	
rack travel mm	:	13.30
Tolerance mm	: +	- 0.10
MEASUREMENT		

kated speed rpm	:	200
Pressure hPa	:	250
rack travel mm	:	13.80
Tolerance mm	: +	- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm	•	1000 750
Del. quantity cm3/1000 strokes Tolerance	:	85.0
cm3/1000 strokes Check tolerance	: +	- 2.0
cm3/1000s.	: +	- 4.0

Aneroid pressure		
hPa		_
	•	500
Rated speed rpm	:	500
Del. quantity		
cm3/1000 strokes	:	69.5
Tolerance	•	
cm3/1000 strokes		⊢ 1.0
	•	1.0
Check tolerance		
cm3/1000s.	: -	⊢ 3.0

STARTING FUEL DELIVERY

Rated speed rpm	:		100
rack travel mm	:		20.50
Tolerance mm	:	+-	1.00
Del. quantity			
cm3/1000 strokes	:		120.0
Tolerance			
cm3/1000 strokes	:	+-	7.5
Check tolerance			
cm3/1000S.	:	+-	10.0

LOW IDLE

Rated speed rpm	:	325
Rack travel in mm Tolerance mm Del. quantity	•	9.60 0.10
cm3/1000 strokes	:	14.5
cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000S. Spreed	: +-	4.5
Tolerance cm3/1000 strokes	:	5.5
Check tolerance cm3/1000s.	•	9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 26.05.97 Test oil : ISO 4113

Combination No. : 0 400 866 232

Injection pump

Pump designation : PES6A95D410/3RS2909

EP type number : 0 410 896 883

Governor

Governer design. : RSV325...1250A5C876L

Governer no. : 0 420 232 631

Cust. part No. : 0423 2063 KY

Customer—spec. information Customer : KHD-DMI Motor : BF6L 913C

Power KW : 141.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : — 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.60 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.80 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 105.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5	
Check tolerance cm3/1000s. : 8.0	CONTROL LEVER
	control lever position degree : 106.0 tolerance degree : +- 4.0
Rated speed rpm : 325	RATED SPEED
Rack travel in mm: 4.80 Tolerance mm: + 0.10 Del. quantity	rack travel mm : 10.80 Rated speed rpm : 1295 Tolerance 1/min : +- 5
cm3/1000 strokes : 11.5	rack travel mm : 4.00
cm3/1000 strokes : +- 2.0 Check tolerance	Rated speed rpm : 1355 Tolerance 1/min : +- 15
cm3/1000s. : +- 4.5	
Spreed + Tolerance +	rack travel mm : 0.85 Tolerance mm : +- 0.55
cm3/1000 strokes : 5.5 + Check tolerance	Rated speed rpm : 1515
cm3/1000s. : 9.0	rack travel mm : 4.00 Rated speed rpm : 1365
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : +- 15
<u> </u>	LOW IDLE
GUIDE SLEEVE POSITION	LOW IVEC
Ŧ.	control lever
control lever + position degree : FREE + Rated speed rpm : 800 +	position degree : 71.0 tolerance degree : +- 4.0
Rack travel in mm: 0.50	Setting point w/out bumper spring
+	Rated speed rpm : 325
governor spring pre-tension +	rack travel mm : 4.30 Tolerance mm : +- 0.10
click setting x : 4.00	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 19.50
Rated speed rpm : 1250 Aneroid pressure	Testing:
hPa : - +	Rated speed rpm : 325 rack travel mm : 4.30
Del. quantity cm3/1000 strokes : 105.0	rack travel mm : 4.30 Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes : +- 1.0 +-	rack travel mm : 2.00
Check tolerance cm3/1000S. : + 3.0 + Spreed	Rated speed rpm : 455 Tolerance 1/min : +- 30
Tolerance	
cm3/1000 strokes : 3.5 Check tolerance	TORQUE CONTROL Rated speed rpm : 1250
cm3/1000s. : 8.0 +	rack travel mm : 11.80

Tolerance mm	: +- 0.05
Rated speed rpm rack travel mm	
Tolerance mm	: 11.85 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1450
rack travel mm	: 11.85
Tolerance mm	: + 0.10
Rated speed rpm Pressure hPa	: 500
rack travel mm	: 10.00 : +- 0.10
Tolerance mm	: - 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa	: 470
rack travel mm Tolerance mm	: 11.30 : +- 0.05
Pressure hPa	: 320
rack travel mm Tolerance mm	: 10.75 : + 0.10
toter diffe in	0.10
ELEL DELTHERY CHA	DACTEDICTICS
FUEL DELIVERY CHA	IKACTERISTICS
Aneroid pressure	
hPa Rated speed rpm	750
Del. quantity cm3/1000 strokes	: 104.0
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance	
cm3/1000s.	: +- 4.0
Aneroid pressure	
hPa Rated speed rpm	: – : 500
Del. quantity	
cm3/1000 strokes Tolerance	: 67.0
cm3/1000 strokes Check tolerance	: ← 2.0
cm3/1000s.	: ← 4.0

STARTING FUEL DELI	EVERY		
Rated speed rpm rack travel mm Tolerance mm Del. quantity	: : +-	100 13.70 0.20	
cm3/1000 strokes Tolerance	:	125.0	
cm3/1000 strokes Check tolerance	: +-	7.5	
cm3/1000s.	: +-	10.0	
LOW IDLE			
Rated speed rpm	:	325	
Rack travel in mm Tolerance mm Del. quantity	: +-	4.80 0.10	•
cm3/1000 strokes Tolerance	:	11.5	
cm3/1000 strokes Check tolerance	: +-	2.0	
cm3/1000s.	: +-	4.5	
Spreed Tolerance cm3/1000 strokes Check tolerance	:	5.5	
	:	9.0	
cm3/1000s.	•		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.05.97 Test oil : ISO 4113

Combination No. : 0 400 866 235

Injection pump

Pump designation : PES6A95D410/3RS2907

EP type number : 0 410 896 884

Governor

Governer design. : RSV325...1250A5c917L

Governer no. : 0 420 232 639

Cust. part No. : 0423 2334 KY

Customer-spec. information Customer : KHD-DMI Motor : F6L913 Power KW : 89.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05
Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50
Tolerance mm: +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1250

4 - Ordina anno Paris de Paris de Paris de Caracteria de C

Rack travel in mm : 11.35 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5	+ Check tolerance cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0	
	CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 107.0
,	tolerance degree : +- 4.0
Rack travel in mm : 8.50 Tolerance mm : +- 0.10	+ RATED SPEED
Del. quantity	+ rack travel mm : 10.35
cm3/1000 strokes : 11.5	+ Rated speed rpm : 1295
Tolerance	+ Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0	+
Check tolerance cm3/1000s. : +- 4.5	+ rack travel mm : 4.00 + Rated speed rpm : 1355
Spreed	+ Tolerance 1/min : + 155
Tolerance	+
cm3/1000 strokes : 5.5	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1000s. : 9.0	Rated speed rpm : 1550
	+ rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1400
WITH GOVERNOR	+ Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	+ LOW IDLE
control lever	†
position degree : FREE Rated speed rpm : 800	+ control lever + position degree : 73.0
rated speed rpiii . Ooo	tolerance degree : +- 4.0
Rack travel in mm : 0.50	+
Tolerance mm : + 0.20	Setting point w/out bumper spring
governor spring	Rated speed rpm : 325
pre-tension / 25	rack travel mm : 8.00
click setting x : 4.25	Tolerance mm : +- 0.10
	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	+ CRT mm min. : > 19.50
Rated speed rpm : 1250	T CAT HAR HITTE
Aneroid pressure	+ Testing:
hPa : -	+
Del. quantity	Rated speed rpm : 325
cm3/1000 strokes : 76.0 Tolerance	+ rack travel mm : 8.50 + Tolerance mm : +- 0.10
cm3/1000 strokes : +- 1.0	T TOTAL MAIN . T U. 10
Check tolerance	frack travel mm : 2.00
cm3/1000s. : +- 3.0	+ Rated speed rpm : 595
Spreed Tale pages	Tolerance 1/min : +- 30
Tolerance cm3/1000 strokes : 3.5	I
	TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 11.35 Tolerance mm : +- 0.05

Rated speed rpm : 750 rack travel mm : 11.80 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 750 Del. quantity

cm5/1000 strokes : 70.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.00 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 90.0

Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 8.50 Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance

cm3/1000s.

cm3/1000 strokes : 5.5

Check tolerance

: 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.05.97 Test oil : ISO 4113

Combination No. : 0 400 876 256

Injection pump

Pump designation : PES6A90D410RS2293 EP type number : 0 410 896 031

Soverrior

Governer design. : RSV350...1300A0C1101

: L

Governer no. : 0 420 232 410

Cust. part No. :

Customer—spec. information
Customer : MB—NFZ
Motor : 0M352A
Power KW : 110.3

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.20 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: --300

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.65 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 71.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

Tolerance cm3/1000 strokes : 3.0	†
	CONTROL LEVER
check tolerance cm3/100Gs. : 4.5	control lever position degree : 119.0 tolerance degree : +- 4.0
Rated speed rpm : 350 Del. quantity	RATED SPEED
cm3/1000 strokes : 11.0	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/1000 strokes : +- 1.0 Check tolerance	Rated speed rpm : 1500
cm3/1000s. : +- 3.0 Spreed	rack travel mm : 4.00 Rated speed rpm : 1430 Tolerance 1/min : +- 15
Tolerance cm3/1000 strokes : 2.5 Check tolerance	+ Toterance Trimin : +- 15
cm3/1000s. : 4.5	
(B) SETTING OF INJECTION PUMP	LOW IDLE
WITH GOVERNOR	Setting point w/out bumper spring
	Rated speed rpm : 350
GUIDE SLEEVE POSITION	rack travel mm : 7.00 Tolerance mm : + 0.10
	Testing:
control lever position degree : - 3 Rated speed rpm : 800	+ rack travel mm : 2.00 + Rated speed rpm : 480 + Tolerance 1/min : + 30
Rack travel in mm : 0.50 Tolerance mm : + 0.20	
governor spring pre-tension click setting x : 4.00	TORQUE CONTROL Rated speed rpm : 1300 rack travel mm : 10.65 Tolerance mm : + 0.05
FULL LOAD DELIVERY AT FULL LOAD	Rated speed rpm : 500 STOP - rack travel mm : 11.35
Rated speed rpm : 1300	Tolerance mm : + 0.05
Aneroid pressure hPa : -	Rated speed rpm : 800 rack travel mm : 11.00
Del. quantity cm3/1000 strokes : 71.5	+ Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes : + 0.5	‡
Check tolerance cm3/1000s. : +- 2.5 Spreed	FUEL DELIVERY CHARACTERISTICS
Tolerance cm3/1000 strokes : 3.0	Aneroid pressure
Check tolerance cm3/1000s. : 4.5	hPa : - Rated speed rpm : 500
	+ Del. quantity + cm3/1000 strokes : 63.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 13.05.97 : ISO 4113

Combination No. : 9 400 030 669

Injection pump

Pump designation : PES6A100b320/3RS3503

EP type number : 9 410 037 213

Governor

Governer design. : RQV400...1250AB1301R

Governer no. : 9 420 030 158

Cust. part No. : TATA-CUMMINS

Customer-spec. information Customer : CUMMINS Motor : 6BTAA Power KW : 118.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2;

Test oil inlet

temp. °C

Tolerance *C

Overflow valve : 9 451 037 430

Inlet press. bar :

Tolerance bar : + 0.1

Test nozzle holde assembly

: 1 688 901 101

Opening pressure

bar

: 207.0

Tolerance bar

: **←** 3.0

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter :

x length mm :

600

2.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.10
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00

Tolerance : +- 0.10

Check

tolerance °NW : + 0.29

Barrel no. : 1

BASIC SETTING

1000 Rated speed rpm :

Rack travel in mm : 11.75

Tolerance mm	: + 0.05
Rack travel in mm Tolerance mm	6.00 : +- 0.10
(B) SETTING OF IN WITH GOVERNOR	NECTION PUMP
GUIDE SLEEVE TRAV	EL
Rated speed rpm guide sleeve	: 1347
travel mm	: 8.48
Tolerance mm	: + 0.15
Rated speed rpm	: 400
guide sleeve travel mm	: 1.71
Tolerance mm	+ 0.20
Rated speed rpm	: 880
guide sleeve travel mm	: 4.97
Tolerance mm	: 4.97 : + 0.25
Rated speed rpm	: 499
guide sleeve travel mm	: 2.75
Tolerance mm	: + 0.25
Rated speed rpm	: 549
guide sleeve travel mm	: 3.30
Tolerance mm	: + 0.25
Rated speed rpm	: 560
guide sleeve travel mm	: 3.37
Tolerance mm	: +- 0.25
Rated speed rpm	: 1620
guide sleeve travel mm	: 11.50
Tolerance mm	: 11.50 : ← 0.50
GUIDE SLEEVE POSI	TION
Rated speed rpm	: 1250
Rack travel in mm Tolerance mm	: 16.00 : +- 1.30

control lever position degree tolerance degree	: 61.0 : + 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 1300
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1425 : +- 15
rack travel mm Tolerance mm Rated speed rpm	
LOW IDLE	
control lever position degree tolerance degree	: 15.0 : +- 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 100
CRT mm min.	: > 9.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 400 : 6.00 : +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 625 : + 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1000 : 11.75 : + 0.05
Rated speed rpm	: 750 : 11.75
rack travel mm Tolerance mm	: 11.75 : + 0.10

CONTROL LEVER

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 550
Pressure hPa : 600
rack travel mm : 11.75
Tolerance mm : + 0.10

Rated speed rpm : 550
Pressure hPa : rack travel mm : 10.50
Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 550

Pressure hPa : 400 rack travel mm : 11.20 Tolerance mm : +- 0.20

Pressure hPa : 340 rack travel mm : 10.80 Tolerance mm : + 0.20

Start interlock

Rated speed rpm : > 170 Rated speed rpm : > 300

Check

speed 1/min : < 190 Check

speed 1/min : < 340

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 12.00 Tolerance mm : + 0.75

LOW IDLE

Rack travel in mm : 6.00 Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 13.05.97 : ISO 4113

Combination No. : 9 400 030 707

Injection pump

Pump designation : PES6A100D320/3RS3511

EP type number : 9 410 037 253

Governor

Governer design. : RQV400...1250AB1320R

Governer no.

: F 002 A30 000

Cust, part No. : TATA-CUMMINS

Customer-spec. information

Customer : CUMMINS

Motor

: 6BT - 145 BHP

TEST BENCH REQUIREMENTS

Inlet line : 3.2;

Test oil inlet

temp. °C

Tolerance *C

: +- 2.0

Overflow valve

: 9 451 037 430

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0

Tolerance bar : +- 1.0

3.10 Prestroke mm : +- 0.05 Tolerance mm

Check

: + - 0.10tolerance mm

Rack travel in mm: 10.50

: +- 1.50 Tolerance mm

: 1-5- 3- 6- 2-Firing order

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 6.00

Tolerance : + 0.10

Check

tolerance *NW : + 0.29

Barrel no.

: 1

BASIC SETTING

Rated speed rpm :

750

Rack travel in mm : 12.20

Tolerance mm : \leftarrow 0.05 Rack travel in mm: 8.45 Tolerance mm : +- 0.10 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1347 guide steeve : 8.48 travel mm : -- 0.15 Tolerance mm Rated speed rpm : 400 quide sleeve : 1.71 travel mm Tolerance mm : + 0.20 Rated speed rpm : 880 auide sleeve : 4.97 travel mm Tolerance mm : + 0.25Rated speed rpm : 499 auide sleeve 2.75 travel mm : + 0.25Tolerance mm : 549 Rated speed rpm quide sleeve : 3.30 travel mm Tolerance mm : \leftarrow 0.25 Rated speed rpm : 560 guide sleeve : 3.37 travel mm : + 0.25 Tolerance mm Rated speed rpm : 1620 guide sleeve travel mm : 11.50 : + 0.50Tolerance mm GUIDE SLEEVE POSITION Rated speed rpm : 1250 Rack travel in mm: 16.00

CONTROL LEVER control lever position degree : 63.0 tolerance degree : +- 4.0 RATED SPEED rack trave! mm : 11.20 Rated speed rpm : 1325 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1455 Tolerance 1/min : + 15 rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1525 LOW IDLE control lever position degree : 20.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. :> 9.00Testing: Rated speed rpm : 400 rack travel mm : 8.45
Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 760 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 750 rack travel mm : 12.20 Tolerance mm : +- 0.05 Rated speed rpm : 1250

ANEROID/ALTITUDE

COMPENSATOR TEST

Tolerance mm : + 1.30

SETTING

Rated speed rpm : 550 Pressure hPa : 750 Tolerance mm : +- 0.05

Rated speed rpm : 550
Pressure hPa : rack travel mm : 11.25
Tolerance mm : +- 0.20

MEASUREMENT

Rated speed rpm : 550

Pressure hPa : 445 rack travel mm : 11.95 Tolerance mm : + 0.20

Pressure hPa : 390 rack travel mm : 11.60 Tolerance mm : + 0.20

Start interlock

Rated speed rpm : > 170 Rated speed rpm : > 300

Check

speed 1/min : < 190 Check

uneck

speed 1/min : < 340

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 15.50 Tolerance mm : +- 0.50

LOW IDLE

Rack travel in mm : 8.45
Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 13.05.97 Edition Test oil : ISO 4113

Combination No. : 9 400 030 708

Injection pump

Pump designation : PES6A100D320/3RS3506

EP type number : 9 410 037 236

Covernor

Governer design. : RQV400...1250AB1328R

Governer no. : F 002 A30 003

Cust. part No. : TATA-CUMMINS

Customer-spec, information

Customer : CUMMINS : 6BT - 125 ps Motor

TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 9 451 037 430

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 5.75 : + 0.10 Tolerance

Check

: + 0.29 tolerance 'NW

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 10.30

Tolerance mm : + 0.05

Rack travel in mm: 6.40 Tolerance mm : + 0.10 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1347 quide sleeve : 8.48 travel mm Tolerance mm : +- 0.15 Rated speed rpm : 400 guide sleeve 1.71 travel mm : + 0.20 Tolerance mm Rated speed rpm : 880 guide sleeve : 4.97 travel mm Tolerance mm : + 0.25 Rated speed rpm : 499 guide sleeve 2.75 travel mm Tolerance mm : + 0.25Rated speed rpm : 549 quide sleeve 3.30 travel mm : +- 0.25 Tolerance mm : 560 Rated speed rpm guide sleeve : 3.37 travel mm Tolerance mm : + 0.25 Rated speed rpm : 1620 quide sleeve : 11.50 travel mm Tolerance mm : + 0.50 GUIDE SLEEVE POSITION Rated speed rpm : 1250 Rack travel in mm: 16.00 Tolerance mm : + 1.30 CONTROL LEVER

control lever position degree : 61.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 9.30
Rated speed rpm : 1335
Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1430 Tolerance 1/min : + 15 LOW IDLE control lever position degree : 15.0 tolerance degree : + 4.0 Setting point w/out humper spring Rated speed rpm : 100 CRT mm min. : > 9.00 Testing: Rated speed rpm : 400 rack travel mm : 6.40 : +- 0.10 Tolerance mm 2.00 rack travel mm : Rated speed rpm : Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 1250 rack travel mm : 10.30 Tolerance mm : + 0.05 Rated speed rpm : 550 rack travel mm : 10.30 Tolerance mm : + 0.10 Rated speed rpm : 750 rack travel mm : 10.30

Tolerance mm : + 0.15

Start interlock

Rated speed rpm : > 170 Rated speed rpm : > 300

Check

speed 1/min : < 190

Check

speed 1/min : < 340

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 14.40 Tolerance mm : + 0.50

LOW IDLE

Rack travel in mm : 6.40 Tolerance mm : +- 0.10

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.05.97 Test oil : ISO 4113

Combination No. : 9 400 030 751

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1050A0C866R

Governer no. : F 002 A20 202

Cust. part No. : 393 0158

Customer-spec. information
Customer : CUMMINS
Motor : 68T
Power KW : 94.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. $^{\circ}$ C : 40Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : +- 0.10

Check

tolerance °NW : + 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.00 Tolerance mm : + 0.05

+	Aneroid pressure
Del. quantity	hPa : 800
cm3/1000 strokes : 86.1	Del. quantity
Talana	cm3/1000 strokes : 86.1
Tolerance	Tolerance
cm3/1000 strokes : +- 1.0	cm3/1000 strokes : +- 1.0
Check tolerance	Check tolerance cm3/1000s. : +- 3.0
cm3/1000s. : +- 3.0	Spreed 5.0
1.0	Tolerance
Spreed	cm3/1000 strokes : 4.0
<u> </u>	Check tolerance
Tolerance	cm3/1000s. : 6.5
cm3/1000 strokes : 4.0	
Chaol, tolonous	
Check tolerance cm3/1000s. : 6.5	CONTROL LEVED
1	CONTROL LEVER
	control lever
1	position degree : 102.0
Rated speed rpm : 475	tolerance degree : +- 4.0
+	-
Rack travel in mm: 6.60	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 11.00
Del. quantity	Rated speed rpm : 1095
cm3/1000 strokes : 18.6	Tolerance 1/min : + 5
cm3/1000 strokes : + 2.0	most travel on a / 00
Check tolerance	rack travel mm : 4.00 Rated speed rpm : 1190
cm3/1000s. : +- 4.5	Tolerance 1/min : +- 15
Spreed	Total ance Training . 1- 13
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 6.0	Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1280
cm3/1000s. : 8.0	
+	rack travel mm : 4.00
(D) CETTING OF THE FORTON DUMP	Rated speed rpm : 1200
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 15
WITH GOVERNOR	
Ĭ	
GUIDE SLEEVE POSITION +	LOW IDLE
+	
+	
control lever	control lever
position degree : - 3	position degree : 84.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50	Control lever difference
Tolerance mm : + 0.20	Grad : 18.0
Total differ min	tolerance degree : +- 4.0
governor spring	1010. di 100 ang. 00 1 1 1 1 1 1 1 1 1
pre-tension +	Setting point w/out bumper spring
click setting x : 4.00	
+	Rated speed rpm : 475
	rack travel mm : 6.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm : 1050	Poted enood nes : 100
Rated speed rpm : 1050 +	Rated speed rpm : 100

		+ Tolerance
CRT mm min.	: > 19.50	+ cm3/1000 strokes : +- 2.0 + Check tolerance
Testing:		cm3/1000s. : +- 4.0
Rated speed rpm	: 475	
rack travel mm	6.60	Aneroid pressure
rack travel mm Tolerance mm	: +- 0.10	hPa : -
		Rated speed rpm : 650
rack travel mm	: 2.00	Del. quantity
Rated speed rpm		+ cm3/1000 strokes : 88.5
Tolerance 1/min	: +- 30	+ Tolerance
		+ cm3/1000 strokes : + 1.0
		Check tolerance
TORQUE CONTROL		+ cm3/1000s. : +- 3.0
Rated speed rpm	: 1050	†
rack travel mm	: 12.00	†
Tolerance mm	: +- 0.05	
Dated speed see	. 000	+ STARTING FUEL DELIVERY
Rated speed rpm	: 800	The state of the s
rack travel mm Tolerance mm	12.00	+ Rated speed rpm : 100
roterance nun	; 0,10	rack travel mm : 20.50 Tolerance mm : +- 0.50
ANEROID/ALTITUDE		Del. quantity
COMPENSATOR TEST		+ cm3/1000 strokes : 121.0
CONTENDATOR TEST		+ Tolerance + cm3/1000 strokes : + 10.0
		+ Check tolerance
SETTING		+ check toterance + cm3/1606S. : +- 15.0
		T 5837 10003. : 45 15.5
Rated speed rpm	: 650	
Pressure hPa		1
Rated speed rpm		+ LOW IDLE
Pressure hPa	*	+
rack travel mm		+ Rated speed rpm : 475
Tolerance mm	: + 0.10	+
META OLI DEPARTMENT		+ Rack travel in mm : 6.60
MEASUREMENT		† Tolerance mm : +- 0.10
Dadid and I .		+ Del. quantity
Rated speed rpm	: 650	+ cm3/1000 strokes : 18.6
Pressure hPa	. 550	† Tolerance
rack travel mm		+ cm3/1000 strokes : +- 2.0
Tolerance mm		+ Check tolerance
roterance mm	: +- 0.20	+ cm3/1000s. : +- 4.5
Pressure hPa	: 475	Spreed
rack travel mm		Tolerance : 6.0
Tolerance mm		Check tolerance
TOCCI GITTE IIII	0.20	+ cm3/1000s. : 8.0
		- Cilio/ 10003
		
FUEL DELIVERY CH	ARACTERISTICS	
Aneroid pressure		End of test specification sheet
hPa	: 800	- and of took open integral of the
Rated speed rpm		1
Del. quantity		1

Rated speed rpm : 800
Del. quantity
cm3/1000 strokes : 97.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.05.97 Edition Test oil : ISO 4113

Combination No. : F 002 A0Z 048

Injection pump

Pump designation : PES6A95D320/3RS2916

EP type number : F 002 A10 010

Governor

Governer design. : RSV425...950A0c927R

Governer no. : F 002 A20 235

Cust, part No. : 3283916

Customer-spec. information Customer : CUMMINS

: 6BTA-160/1900 Motor

Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance *C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : **0-60-120-180**-240

: -300

Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : +- 0.10

Check

tolerance *NW : +- 0.29

Barrel no. : 1

BASIC SETTING

950 Rated speed rpm :

Rack travel in mm : 13.30

Tolerance mm : + 0.05	Rated speed rpm : 950 Aneroid pressure
Del. quantity cm3/1000 strokes : 119.4	hPa : 850 Del. quantity
Talana	cm3/1000 strokes : 119.4
Tolerance cm3/1000 strokes : +- 1.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000s. ; +- 3.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 4.0 Check tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	CONTROL LEVER
	control lever
+	position degree : 88.0
Rated speed rpm : 425	tolerance degree : + 4.0
Rack travel in mm: 6.00	RATED SPEED
Tolerance mm : +- 0.10	rack travel mm : 12.30
Del. quantity	Rated speed rpm : 1000
cm3/1000 strokes : 23.5	Tolerance 1/min : + 5
Tolerance + 2.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1050
cm3/1000s. : + 4.5	Tolerance 1/min : +- 5
Spreed	
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 6.0	Tolerance mm : +- 0.55
Check tolerance + cm3/1000s. : 8.0 +	Rated speed rpm : 1200
	rack travel mm : 4.00
+	Rated speed rpm : 1050
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
1	
control lever	control lever
position degree : FREE +	position degree : 70.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50	Control lever difference
Tolerance mm : +- 0.20	Grad : 18.0
	tolerance degree : +- 6.0
governor spring pre-tension	Setting point w/out bumper spring
click setting x : 2.75	Poted around not 125
	Rated speed rpm : 425 rack travel mm : 5.20
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
TOLE COMP PERSON IN TOLE COMP OF O	
•	

Rated speed rpm : 100 : > 19.00 CRT mm min. Testing: Rated speed rpm 425 : rack travel mm 6.00 : + 0.10Tolerance mm 2.00 rack travel mm Rated speed rpm Tolerance 1/min : +-TORQUE CONTROL Rated speed rpm 950 rack travel mm 13,30 : **←** 0.05 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa 850 500 Rated speed rpm Pressure hPa • 10.30 rack travel mm Tolerance mm : + 0.10**MEASUREMENT** Rated speed rpm 500 : 550 Pressure hPa rack travel mm 12.50 Tolerance mm : **←** 0.20 350 Pressure hPa rack travel mm 11.30 Tolerance mm : + - 0.20FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa Rated speed rpm 500 Del. quantity cm3/1000 strokes : 80.8 Tolerance cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 3.0 STARTING FUEL DELIVERY Rated speed rpm : 100 20.50 rack travel mm : Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 122.5 Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm: 6.00 Tolerance mm : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 23.5 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Toterance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 20.05.97 : ISO 4113

Combination No. : F 002 AOZ 052

Injection pump

Pump designation : PES6A95D320/3RS2916

EP type number : F 002 A10 010

Governor

Governer design. : RSV425...1000A0C932R

Governer no. : F 002 A20 238

Cust. part No. : 328 3918

Customer-spec. information

Customer : CUMMINS Motor

: SBTA-147 HP

Power KW

: 106.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance "C

: +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50

Tolerance : +- 0.10

Check

tolerance *NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm :

1000

Rack travel in mm: 12.40

Tolerance mm : +- 0.05 +	Rated speed rpm : 1000
Toterance mail . += 0.05	Aneroid pressure
Del. quantity	hPa : 1200
cm3/1000 strokes : 109.8	Del. quantity cm3/1000 strokes : 109.8
Tolerance	Tolerance
cm3/1000 strokes : +- 1.0	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance	cm3/1000s. : +- 3.0
cm3/1000s. : + 3.0	Spreed
Spreed	Tolerance cm3/1000 strokes : 4.0
+	Check tolerance
Tolerance	cm3/1000s. : 6.5
cm3/1000 strokes : 4.0	•
Check tolerance	
cm3/1000s. : 6.5	CONTROL LEVER
Charles and the first charles and the second charles and the second charles and	control lever
+	position degree : 88.0
Rated speed rpm : 425	tolerance degree : +- 4.0
Rack travel in mm: 5.50	RATED SPEED
Tolerance mm : + 0.10 +	rack travel mm : 11.40
Del. quantity	Rated speed rpm : 1065
cm3/1000 strokes : 17.6	Tolerance 1/min : + 5
cm3/1000 strokes : 4 2.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1100
cm3/1000s. : +- 4.5	Tolerance 1/min : + 5
Spreed	•
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 6.0	Tolerance mm : + 0.55
Check tolerance + 8.0 +	Rated speed rpm : 1250
. 0.0	rack travel mm : 4.00
 	Rated speed rpm : 1100
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 15
WITH GOVERNOR	
<u> </u>	•
GUIDE SLEEVE POSITION	LOW IDLE
Ŧ	
control lever	control lever
position degree : FREE +	position degree : 67.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50	Control lever difference
Tolerance mm : + 0.20	Grad : 21.0
+	tolerance degree : +- 6.0
governor spring	
pre-tension +	Setting point w/out bumper spring
click setting x : 3.00	Rated speed rpm : 425
	rack travel mm : 5.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
1	•

Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: : 425 Rated speed rpm 5.50 rack travel mm : + 0.10Tolerance mm rack travel mm 2.00 : Rated speed rpm : 500 Tolerance 1/min : +- 30 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm 12.40 : - 0.05 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 1200 Pressure hPa : 500 Rated speed rpm : Pressure hPa : 10.30 rack travel mm : + 0.20 Tolerance mm MEASUREMENT 500 Rated speed rpm : Pressure hPa 600 rack travel mm 11.80 : +- 0.20 Tolerance mm Pressure hPa : 475 : 11.30 rack travel mm · + 0.20 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 500 Rated speed rpm : Del. quantity cm3/1000 strokes : 83.7 Tolerance cm3/1000 strokes : + 1.0

Check tolerance : +- 3.0 cm3/1000s. STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.50 : + 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 121.5 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm: 5.50 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 17.6 Tolerance cm3/1000 strokes : +- 2.0Check tolerance cm3/1000s. : **←** 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

x inside diameter : BOSCH INJ. PUMP TEST SPECIFICATIONS 2.0 x length mm : 600 Note remarks Refer to Service Info for test and adjustment instructions. REMARKS See microcard(s) W400/... : 06.05.97 Edition : ISO 4113 Test oil Combination No. : 9 400 030 752 (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ Injection pump Pump designation : PES4A95D32O/3RS288O EP type number : 9 410 034 214 BEGINNING OF DELIVERY Governor Governer design. : RSV475...1100A0C867R Test pressure bar : 17.0 Tolerance bar : + 1.0 Governer no. : F 002 A20 203 Cust. part No. : 393015% : 2.45 : + 0.05 Prestroke mm Tolerance mm Check Customer-spec. information tolerance mm : + 0.10 Customer : CDC Rack travel in mm : 10.50 Motor : 4BT Power KW Tolerance mm : \leftarrow 1.50 : 66.0 Firing order : 1-3-4-2 TEST BENCH REQUIREMENTS : 0-90-180-240 Inlet line : 3.2 Phasing Tolerance : +- 0.50 Check tolerance *NW : +- 0.75 Test oil inlet temp. °C 40 Tolerance °C Start of delivery blocking *NW after s.o.d. : 6.50 Overflow valve : 2 417 413 093 Tolerance : +- 0.50 Check Inlet press. bar : 2.0
Tolerance bar : + 0.1 tolerance "NW : +- 0.75 : 1 Barrel no. Test nozzle holde : 1 688 901 101 assembly BASIC SETTING Opening pressure : 208.5 Rated speed rpm : 1100 bar Tolerance bar Rack travel in mm : 12.90

Tolerance mm : \leftarrow 0.05

Test Lines : 1 680 750 014

Outside diameter : 6.0

Del. quantity + cm3/1000 strokes : 97.0 +	Aneroid pressure hPa : -
Tolerance	Del. quantity cm3/1000 strokes : 97.0
cm3/1000 strokes : +- 1.0	Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : + 3.0	cm3/1000s. : + 3.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance
	cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	
Make Samuratan Angar and Paris To Fill State Control of the State Contro	CONTROL LEVER
+	control lever
Rated speed rpm : 475	position degree : 107.0
†	tolerance degree : +- 4.0
Rack travel in mm: 6.80	B. 100
Tolerance mm : + 0.10	RATED SPEED
Del. quantity	rack travel mm : 11.90
cm3/1000 strokes : 18.5	Rated speed rpm : 1165 Tolerance 1/min : +- 5
Tolerance + 2.0 + 2.0	Tolerance 1/min : +- 5
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 4.5	Rated speed rpm : 1270
Spreed	Tolerance 1/min : + 5
Tolerance	roterance miniti
cm3/1000 strokes : 6.0	rack travel mm : 0.85
Check tolerance	Tolerance mm : + 0.55
cm3/1000s. : 8.0	Rated speed rpm : 1300
+	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1275
WITH GOVERNOR +	Tolerance 1/min : + 15
+	
+	
GUIDE SLEEVE POSITION	LOU TOLE
†	LOW IDLE
control lever	
position degree : -3	control lever
Rated speed rpm : 800	position degree : 86.0
Thated speed (pill : oob	tolerance degree : +- 4.0
Rack travel in mm: 0.50	to teranice degree
Tolerance mm : + 0.20 +	Control lever difference
+	Grad : 21.0
governor spring +	tolerance degree : +- 4.0
pre-tension +	
click setting x : 4.50	Setting point w/out bumper spring
+	
	Rated speed rpm : 475
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 6.30
+	Tolerance mm : +- 0.10
Rated speed rpm : 1100 +	Data di manuali di 1900
+	Rated speed rpm : 100

CRT mm min. : > 19.00 Testing: 475 Rated speed rpm 6.80 rack travel mm : + 0.10Tolerance mm TORQUE CONTROL Rated speed rpm : 1100 12.90 rack travel mm : : **←** 0.05 Tolerance mm Rated speed rpm 750 13.40 rack travel mm : +- 0.20 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 750 Rated speed rpm Del. quantity cm3/1000 strokes : 103.5 Tolerance 2.0 cm3/1000 strokes Check tolerance cm3/1000s. 4.0 STARTING FUEL DELIVERY 100 Rated speed rpm 20.50 rack travel mm : : ← 0.50 Tolerance mm Del. quantity 121.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +- 10.0 Check tolerance : **←** 15.0 cm3/1000S. LOW IDLE 475 Rated speed rpm : 6.80 Rack travel in mm :

: **←** 0.10

Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 8.0

End of test specification sheet

Tolerance mm
Del. quantity

cm3/1000 strokes : 18.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 28.05.97 Edition Test oil : ISO 4113

Combination No. : F 002 ADZ 010

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1050A0c887R

Governer no. : F 002 A20 209

Cust. part No. : 3930160

Customer-spec. information Customer : CDC Motor : 6BT Power KW : 107.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temo. °C Tolerance °C : + 2.0

: 2 417 413 093 Overflow valve

Inlet press. bar : 2.0 Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 : +~ 0.05 Tolerance mm Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : ← 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : \leftarrow 0.50

Check

tolerance °NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.50 Tolerance mm : \leftarrow 0.05

+	Aneroid pressure
Del. quantity	hPa : 1000
cm3/1000 strokes : 103.5	Del. quantity
+-1	cm3/1000 strokes : 103.5
Tolerance + 1.0 +	Tolerance cm3/1000 strokes : +- 1.0
cinstituto strokes: +- 1.0	Check tolerance
Check tolerance	cm3/1000s. : +- 3.0
cm3/1000s. : + 3.0	Spreed
	Tolerance
Spreed	cm3/1000 strokes : 4.0
	Check tolerance
Tolerance + 4.0 + 4.0	cm3/1000s. : 6.5
cm3/1000 strokes : 4.0	
Check tolerance	
cm3/1000s. : 6.5	CONTROL LEVER
+	control lever
+	position degree : 103.0
Rated speed rpm : 475	tolerance degree : +- 4.0
Rack travel in mm: 5.80	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 11.50
Del. quantity	Rated speed rpm : 1120
cm3/1000 strokes : 19.0	Tolerance 1/min : +- 5
Tolerance	
cm3/1000 strokes : + 2.0	rack travel mm : 6.85
Check tolerance	Rated speed rpm : 1175
cm3/1000s. : + 4.5	Tolerance 1/min : +- 5
Spreed	
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 6.0 +	Tolerance mm : + 0.55
Check tolerance	Rated speed rpm : 1300
cm3/1000s. : 8.0	rack travel mm : 6.85
I	Rated speed rpm : 1175
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 15
WITH GOVERNOR	Total dilectivities
+	
+	
GUIDE SLEEVE POSITION	TOM IDLE
İ	
control lever	control lever
position degree : FREE +	position degree : 83.0
Rated speed rpm : 800	tolerance degree : +- 4.0
<u> </u>	
Rack travel in mm: 0.50	Control Lever difference
Tolerance mm : + 0.20 +	Grad : 20.0
†	tolerance degree : +- 6.0
governor spring +	Satting point what human saning
pre-tension + click setting x : 3.00 +	Setting point w/out bumper spring
T . J. Ou	Rated speed rpm : 475
	rack travel mm : 5.30
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
+	
Rated speed rpm : 1050	Rated speed rpm : 100

CRT mm min. : > 19.00 Aneroid pressure Testing: hPa 500 Rated speed rpm 475 Rated speed rpm Del. quantity rack travel mm 5.80 cm3/1000 strokes : 98.0 Tolerance mm : +- 0.10 Tolerance cm3/1000 strokes : +- 1.0Check tolerance TORQUE CONTROL cm3/1000s. 3.0 1050 Rated speed rpm 12.50 rack travel mm Tolerance mm : **←** 0.05 STARTING FUEL DELIVERY Rated speed rpm 800 rack travel mm 12.95 100 Rated speed rpm Tolerance mm : + 0.2020.50 rack travel mm : +- 0.50 Tolerance mm Del. quantity ANEROID/ALTITUDE cm3/1000 strokes : 121.0 COMPENSATOR TEST Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. SETTING : +- 15.0 500 Rated speed rpm Pressure hPa 1000 500 LOW IDLE Rated speed rpm Pressure hPa 12,00 rack travel mm Rated speed rpm : 475 Toterance mm : +- 0.20 Rack travel in mm : 5.80 **MEASUREMENT** : + 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 19.0 Rated speed rpm 500 Tolerance cm3/1000 strokes : +-Pressure hPa 700 2.0 rack travel mm 12.80 Check tolerance cm3/1000s.4.5 Tolerance mm : +- 0.20 Spreed 560 Pressure hPa Tolerance 12.40 cm3/1000 strokes : rack travel imm 6.0 Tolerance mm : +- 0.20 Check tolerance cm3/1000s. 8.0 FUEL DELIVERY CHARACTERISTICS End of test specification sheet Aneroid pressure 1000 hPa 800 Rated speed rpm Del. quantity cm3/1000 strokes : 113.5 Tolerance cm3/1000 strokes : +-2.0

Check tolerance cm3/1000s.

: +-

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 26.05.97 Edition Test oil : ISO 4113

Combination No. : 0 400 074 872

Injection pump

Pump designation : PES4M55C32ORS192 FP type number : 0 410 054 932

Governor

Governer design. : RSF360/1900M90 Governer no. : 0 420 021 295

Cust. part No.

Customer-spec. information Customer : MB-FKW

: 0M601 D23 LA Motor

Power KW : 72.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C Tolerance °C

: 1 469 990 351 Overflow valve

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

148.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 2.05 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 21.00 Tolerance mm : +- 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 17.00 Tolerance : +- 0.20

Check

: +- 0.30 tolerance *NW

Barrel no. : 1

BASIC SETTING

900 Rated speed rpm :

Rack travel in mm: 13.80 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 59.5

Tolerance

cm3/1000 strokes : +- 0.7

Check tolerance

: +- 1.7 cm3/1000s.

Spreed

Tolerance cm3/1000 strokes : 3.0	CRT mm max. : 1.95
Check tolerance cm3/1000s. : 3.5	LOW IDLE
Rated speed rpm : 360	Setting point w/out bumper spring
Rack travel in mm : 6.00 Tolerance mm : + 0.10	Rated speed rpm : 360 rack travel mm : 6.00
Del. quantity cm3/1000 strokes : 6.5	SET IDLE AUXILIARY SPRING
Tolerance cm3/1000 strokes : + 0.5	Rated speed rpm : 500 rack travel mm : 4.00
Spreed Tolerance cm3/1000 strokes : 1.0	Tolerance mm : +- 0.10
CIID/ 1000 Strokes . 1.0	+ Load pick-up + Rated speed rpm : 900
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ CRT mm max. : 1.95
	rack travel mm : 6.00
IDLE STAGE	Rated speed rpm : 360
Rack travel in mm : 6.00 Tolerance mm : + 0.10	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 900 rack travel mm : 13.80 Tolerance mm : + 0.05
Rated speed rpm : 9GG Ref. pressure	Rated speed rpm : 1500
ALDA / ADA hPa : 1850 Del. quantity	rack travel mm : 13.20 Tolerance mm : + 0.10
<pre>cm3/1000 strokes : 59.5 Tolerance cm3/1000 strokes : + 0.7</pre>	Rated speed rpm : 1900 rack travel mm : 12.50
Check tolerance cm3/1000s. : + 1.7	Tolerance mm : + 0.15
Spreed Tolerance	Rated speed rpm : 900 rack travel mm : 11.15 Tolerance mm : + 0.10
<pre>cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5</pre>	Tolerance mm : + 0.10
	ADJUSTMENT TEST ADA/ALDA
RATED SPEED	SETTING
Tolerance mm : +- 0.20	Rated speed rpm : 900 Ref. pressure
Rated speed rpm : 2600 rack travel mm : 0.50	ALDA / ADA hPa : 1600 + rack travel mm : -0.25
rack travel mm : 0.50 Tolerance mm : + 0.50	Tolerance mm : + 0.20
SET IDLE CONTROL LEVER POSITION	MEASUREMENT
Rated speed rpm : 900	Rated speed rpm : 900
Massa speed i piir i - /ou	1

Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm	: -2.65	Ref. pressure ALDA / ADA hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 900 : 43.0 : ← 0.7 : ← 1.7
FUEL DELIVERY CHA	RACTERISTICS	cm3/1000 strokes Check tolerance	
Ref. pressure ALDA / ADA hPa Pated speed rpm		cm3/1000s.	: 3.5
Del. quantity cm3/1000 strokes	: 58.0	HIGH IDLE	
Tolerance cm3/1000 strokes Check tolerance		+ Ref. pressure + ALDA / ADA hPa + Tolerance mm	
cm3/1000s. Spreed	: + 2.0	Del. quantity cm3/1000 strokes	
Tolerance cm3/1000 strokes	: 3.0	Tolerance cm3/1000 strokes	: + 2.2
Crebk tolerance cm3/1000s.	: 3.5	+ Check tolerance + cm3/1000S. + Spreed	: +- 3.2
Ref. pressure ALDA / ADA hPa	: 1850	Tolerance cm3/1000 strokes	: 3.0
Rated speed rpm Spreed		Check tolerance cm3/1000s.	
Del. quantity cm3/1000 strokes Tolerance	: 55.5	CTARTING GUEL DEL	TUEDV
cm3/1000 strokes Check tolerance	: - 1.2	STARTING FUEL DEL Rated speed rpm	
cm3/1000s. Spreed	: + 2.2	rack travel mm Del. quantity	
Tolerance cm3/1000 strokes	: 3.0	cm3/1000 strokes Tolerance	
Check tolerance cm3/1000s.	: 3.5	cm3/1000 strokes Check tolerance cm3/1000s.	: +- 4.0 : +- 5.0
Ref. pressure ALDA / ADA hPa	: 1100	Spreed Tolerance	
Rated speed rpm Del. quantity		cm3/1000 strokes Check tolerance	
cm3/1000 strokes Tolerance		- cm3/1000s.	: 8.5
cm3/1000 strokes Check tolerance	: + 0.7 : + 1.7		
cm3/1000S. Spreed Tolerance	1.1	LOW IDLE	
cm3/1000 strokes Check tolerance		Rated speed rpm rack travel mm	: 6.20
cm3/1000s.	: 3.5	Tolerance mm	: +- 0.10

Del. quantity

cm3/1000 strokes : 7.8

Check tolerance

cm3/1000s. : +- 2.3

Spreed

Check tolerance

cm3/10003. : 1.5

control lever

position degree : > 42.00

control lever

position degree : < 39.50

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

MEGGENITOR (EEM)

Rated speed rpm : 360

Current A : 1.80

Rated speed rpm : 2600

Rack travel in mm : 0.50

Tolerance mm : + 0.50

Current short-

duration A : 3.00

Starting test

Rated speed rpm : 100

Current A : 1.80

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 360

Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 26.05.97 Test oil : ISO 4113

Combination No. : 0 402 076 814

Injection pump

Pump designation : PES6P120B320RS3382

EP type number : 0 412 026 803

Governor

Governer design. : RSV425...1100POA669

Governer no. : 0 421 833 572

Cust. part No. : 836354708

Customer-spec. information Customer : SISU

Motor : 645 DSIE Power KW : 200.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50
Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 12.20

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 206.0

N₀6

* 1	
Tolerance	- Spreed
cm3/1000 strokes : +- 1.0	- Tolerance
Oharl Ashana	- cm3/1000 strokes : 5.0
Check tolerance	- Check tolerance
cm3/1000s. : +- 4.0	- cm3/1000s. : 9.0
	-
Spreed	-
Tolerance	- CONTROL LEVER
cm3/1000 strokes : 5.0 -	
	- control lever
Check tolerance	position degree : 96.0
cm3/1000s. : 9.0	tolerance degree : +- 4.0
1	- RATED SPEED
Production and product (25)	rack travel mm : 10.80
Reted speed rpm : 425	- Rated speed rpm : 1145
Dool Annual in many / 90	Tolerance 1/min : +- 5
Rack travel in mm: 4.80	manus de marcal
Tolerance mm : +- 0.10	rack travel mm : 4.00
Del. quantity	Rated speed rpm : 1225
cm3/1000 strokes : 16.0	Tolerance 1/min : + 15
Tolerance	
cm3/1000 strokes : +- 2.5	rack travel mm : 0.85
Check tolerance	- Tolerance mm : +- 0.55
cm3/1000s. : + 5.0	Rated speed rpm : 1330
Spreed	
Tolerance -	-
cm3/1000 strokes : 5.0	
Check tolerance	1.014 704 5
cm3/1000s. : 7.0	- LOW IDLE
3	
(D) CETTING OF THIS CTYON DUND	·
(B) SETTING OF INJECTION PUMP	control lever
WITH GOVERNOR -	position degree : 74.0
1	tolerance degree : +- 4.0
	Setting point w/out bumper spring
GUIDE SLEEVE POSITION	secting point wrote bumper spring
GOINE OFFERE LOSTITOM	- - Rated speed rpm : 425
	rack travel mm : 4.30
control lever	rack travel mm : 4.30 Tolerance mm : + 0.10
position degree : - 3	. Totalica in
Rated speed rpm : 800	Testing:
nates speed (pin) See	L
Rack travel in mm: 0.50	- Rated speed rpm : 425
Tolerance mm : + 0.20	rack travel mm : 4.80
10501 di 100 ililii	- Tolerance mm : +- 0.10
	a contracting and a contraction
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00
- TEE COME PERSON IN LOCK COME OF O	- Rated speed rpm : 490
Rated speed rpm : 700	Tolerance 1/min : + 30
Aneroid pressure	
nra : rouu -	TODAUE CONTOOL
	- TORQUE CONTROL
Del. quantity	- TORQUE CONTROL - Rated speed rpm : 700
Del. quantity - cm3/1000 strokes : 206.0 -	- Rated speed rpm : 700
Del. quantity - cm3/1000 strokes : 206.0 - Tolerance	Rated speed rpm : 700 rack travel mm : 12.20
Del. quantity - cm3/1000 strokes : 206.0 - Tolerance - cm3/1000 strokes : + 1.0 -	- Rated speed rpm : 700
Del. quantity - cm3/1000 strokes : 206.0 - Tolerance - cm3/1000 strokes : 206.0 - cm3/1000 strokes : 2	Rated speed rpm : 700 rack travel mm : 12.20

rack travel mm Tolerance mm	: 11.80 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel กักก Tolerance กักก	: 500 : 1500 : 12.20 : + 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 9.10 : + 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 940 : 2.50 : + 0.10
Pressure hPa rack travel mm Tolerance mm	: 470 : 0.25 : ← 0.05
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1500 : 1100
cm3/1000 strokes Tolerance	: 183.0
cm3/1000 strokes	: + 3.0
Check tolerance cm3/1000s. Spreed	: +- 6.0
Tolerance	: 8.0
cm3/1000 strokes Check tolerance	

Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		
STARTING FUEL DEL	IVERY	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 100 : 20.50 : + 0.50 : 239.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 10.0 : + 14.0	
LOW IDLE		
Rated speed rpm	: 425	
-		
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: 4.80 : + 0.10	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 4.80 : + 0.10	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 4.80 : + 0.10 : 16.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 4.80 : + 0.10 : 16.0 : + 2.5	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 4.80 : + 0.10 : 16.0 : + 2.5 : + 5.0	

End of test specification sheet

hPa : -Rated speed rpm : 500

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 13.06.95 : ISO 4113

Combination No. : 0 400 866 202

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1000A0C2190

: -74R

Governer no.

: 0 420 233 313

Cust. part No. : 3921142

Customer-spec. information

Customer

: CDC

Motor

: 6 CT 8.3

Power KW

: 151.4

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter :

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 : +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : **0-60-120-180-**240

: -300

Start of delivery blocking

*NW after s.o.d. : 10.00

Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 12.15

Tolerance mm : +- 0.05

NO9

Del. quantity cm3/1000 strokes : 124.0	
Tolerance cm3/1000 strokes : + 1.0	CONTROL LEVER
+	control lever
Check tolerance +	position degree : 90.0
cm3/1000s. ; +- 3.0	tolerance degree : +- 4.0
Spreed	RATED SPEED
+	rack travel mm : 11.10
Tolerance	Rated speed rpm : 1055
cm3/1000 strokes : 4.0	Tolerance 1/min : +- 5
Check tolerance	rack travel mm : 4.00
cm3/1000s. : 6.5	Rated speed rpm : 1115
	Tolerance 1/mir. : - 5
1	rack travel mm : 0.85
1	Tolerance mm : +- 0.55
Rack travel in mm: 5.70	Rated speed rpm : 1175
Tolerance mm : + 0.10	·
+	rack travel mm : 4.00
+	Rated speed rpm : 1120
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 15
WITH GOVERNOR +	
+	
-	
GUIDE SLEEVE POSITION +	LOW IDLE
ţ	
†	
control lever	control lever
position degree : -3	position degree : 75.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50	Control lever difference
- I	Grad : 15.0
Tolerance mm : + 0.20 +	
Tayonnon engina	tolerance degree : 4- 4.0
governor spring + pre-tension +	Setting point w/out bumper spring
click setting x : 4.00	second bottle wroat pulliper spring
Telef serving v . Trou	Rated speed rpm : 400
	rack travel mm : 5.20
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
- Ann Paul Angeleur III I and Paul And	र चंदर जारक प्राप्ता १००० व्यवस्था । व्यवस्था । व्यवस्था । व्यवस्था । व्यवस्था । व्यवस्था । व्यवस्था । व्यवस्थ
Rated speed rpm : 1000	Rated speed rpm : 100
Aneroid pressure	• • • • • • • • • • • • • • • • • • • •
hPa : - +	CRT mm min. : > 19.00
Del. quantity +	
cm3/1000 strokes : 124.0 +	Testing:
Tolerance	-
cm3/1000 strokes : + 1.0 +	Rated speed rpm : 400
Check tolerance +	rack travel mm : 5.70
$cm3/1000s$. : \leftarrow 3.0	Tolerance mm : + 0.10
Spreed	
Tolerance	
cm3/1000 strokes : 4.0 +	TORQUE CONTROL
Check tolerance +	Rated speed rpm : 1000
cm3/1000s. : 6.5 +	rack travel mm : 12.15
,	

Tolerance mm : +- 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00

Del. quantity

cm3/1000 strokes : 145.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s, : \leftarrow 15.0

LOW IDLE

Rack travel in mm: 5.70 Tolerance mm: + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95 Test oil : ISO 4113

Combination No. : 0 400 866 209

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1050A0c2190

: -81R

Governer no. : 0 420 233 320

Cust. part No. : 3921089

Customer-spec. information Customer : CDC Motor : 6 C 8.3 Power KW : 89.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

"NW after s.o.d. : 11.00 Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 9.65

Tolerance mm : +- 0.05

Del. quantity +	
cm3/1000 strokes : 80.5	control lever position degree : 95.0
Tolerance cm3/1000 strokes : + 1.0	tolerance degree : +- 4.0
Check tolerance cm3/1000s. : + 3.0	RATED SPEED rack travel mm : 8.60 Rated speed rpm : 1100 Tolerance 1/min : +- 5
Spreed	rack travel mm : 4.00
Tolerance cm3/1000 strokes : 4.0	Rated speed rpm : 1140 Tolerance 1/min : + 5
Check tolerance cm3/1000s. : 6.5	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1200
Rack travel in mm: 5.70 Tolerance mm: + 0.10	rack travel mm : 4.00 Rated speed rpm : 1140 Tolerance 1/min : +- 15
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 77.0 tolerance degree : + 4.0
control lever position degree : -3 Rated speed rpm : 800	Control lever difference Grad : 18.0 tolerance degree : + 4.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 400 rack travel mm : 5.20 Tolerance mm : + 0.10
Rated speed rpm : 1050	Rated speed rpm : 100
Aneroid pressure + + + + + + + + + + + + + + + + + + +	CRT mm min. : > 19.00
Del. quantity cm3/1000 strokes : 80.5	Testing:
Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	Rated speed rpm : 400 rack travel mm : 5.70 Tolerance mm : + 0.10
Spreed + Tolerance +	
cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.5	TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 9.65 Tolerance mm : + 0.05
CONTROL LEVER	Rated speed rpm : 750 rack travel mm : 10.50

Toterance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : - 750

Del. quantity

cm3/1000 strokes : 88.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm5/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00

Del. quantity

cm3/1000 strokes : 155.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : + 15.0

LOW IDLE

Rack travel in mm: 5.70 Tolerance mm: + 0.10

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 22.05.95 : ISO 4113 Test oil Combination No. : 0 400 866 213 Injection pump Pump designation : PES6A100D320/3RS2691 : --4 EP type number : 9 410 230 030 Governor Governer design. : RSV450...1100A0C2190 : -83R Governer no. : 0 420 233 322 Cust. part No. : 3921093 Customer-spec. information Customer : CDC : 6CT830 Motor Power KW : 150.6 TEST BENCH REQUIREMENTS Inlet line : 3.2 Test oil inlet temp. °C 40 Tolerance °C 2.0 Overflow valve : 1 417 413 047 Inlet press. bar : 1.5 Tolerance bar $: \leftarrow 0.1$ Test nozzle holde : 1 688 901 101 assembly Opening pressure : 208.5 Tolerance bar : **←** 1.5

Outside diameter : 6.0 x inside diameter : 2.0 x length mm : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values ____ BEGINNING OF DELIVERY Test pressure bar: 17.0 Tolerance bar : +- 1.0 Prestroke mm 2.85 : +- 0.05 Tolerance mm Check tolerance mm : +- 0.10 Rack travel in mm : 10.50 Tolerance mm : +- 1.50 Firing order : 1-5-3-6-2-: 4 : 0-60-120-180-240 Phasing : -300 Start of delivery blocking *Nil after s.o.d. : 11.00 : +- 0.50 Tolerance Check tolerance *NW : +- 0.75 Barrel no. : 1 BASIC SETTING Rated speed rpm : 1100 Rack travel in mm : 12.15 Tolerance mm : + 0.05

Test lines : 1 680 750 014

Del. quantity cm3/1000 strokes : 121.0	
Tolerance cm3/1000 strokes : +- 1.0	CONTROL LEVER
	control lever
Check tolerance	position degree : 108.0
cm3/1000s. : +- 3.0	tolerance degree : +- 6.0
Spreed	RATED SPEED
	rack travel mm : 11.10
Tolerance	Rated speed rpm : 1160
cm3/1000 strokes : 4.0	Tolerance 1/min : + 5
Check tolerance	rack travel mm : 4.00
cm3/1000s. : 6.5	Rated speed rpm : 1255
	Tolerance 1/min : + 5
‡	rack travel mm : 0.85
+	Tolerance mm : + 0.55
Rack travel in mm: 5.40 + Tolerance mm: + 9.10	Rated speed rpm : 1300
I See all the same of the same	rack travel mm : 4.00
1	Rated speed rpm : 1260
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 15
WITH GOVERNOR	rocci di lec miniti
GUIDE SLEEVE POSITION	LOW IDLE
1	
control lever	control lever
position degree : - 3	position degree : 85.0
Rated speed rpm : 800	tolerance degree : +- 6.0
Rack travel in mm: 0.50	Control lever difference
Toterance mm : + 9.20	Grad : 23.0
	tolerance degree : +- 6.0
governor spring	toterance degree 0.0
pre-tension +	Setting point w/out bumper spring
click setting x : 5.00	S to the same and a supply of the trig
<u> </u>	Rated speed rpm : 450
+	rack travel mm : 4.90
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
Rated speed rpm : 1100	Rated speed rpm : 100
Aneroid pressure	
hPa : -	CRT mm min. : > 19.00
Del. quantity	
cm3/1000 strokes : 121.0 +	Testing:
Tolerance +	Dahad award are 100
cm3/1000 strokes : + 1.0 +	Rated speed rpm : 450
Check tolerance +	rack travel mm : 5.40
cm3/1000s. : + 3.0	Tolerance mm : + 0.10
Spreed	
Tolerance +	TODOUT CONTROL
cm3/1000 strokes : 4.0	TORQUE CONTROL
Check tolerance	Rated speed rpm : 1100
cm3/1000s. : 6.5	rack travel mm : 12.15

Tolerance mm : +- 0.05 Rated speed rpm : 750 rack travel mm 13.20 : +- 0.10 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 750 Rated speed rpm : Del. quantity cm3/1000 strokes : 136.C Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.0 STARTING FUEL DELIVERY Rated speed rpm 100 20.50 rack thavel mm : : **←** 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 140.0 Tolerance cm3/1000 strokes : \leftarrow 10.0 Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rack travel in mm: 5.40 Tolerance mm : ← 0.10 End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 13.06.95 : ISO 4113

Test oil

Combination No. : 0 400 866 214

Injection pump

Pump designation : PES6A100D320/3RS2691

: -4

EP type number

: 9 410 230 030

Governor

Governer design. : RSV450...1100A0C2190

: -84R

Governer no.

: 0 420 233 323

Cust. part No. : 3921095

Customer-spec. information Customer : CDC Motor : 6CT830 : 134.2 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 : + 0.05Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

*NW after s.o.d. : 11.00 : + - 0.50Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

1100 Rated speed rpm :

Rack travel in mm: 11.25 Tolerance mm : + 0.05

Del. quantity + cm3/1000 strokes : 104.5 +	control lever
Tolerance	position degree : 103.0 tolerance degree : +- 4.0
cm3/1000 strokes : \leftarrow 1.0 $+$	RATED SPEED
Check tolerance cm3/1000s. : +- 3.0	rack travel mm : 10.20 Rated speed rpm : 1145 Tolerance 1/min : +- 5
Spreed	Toterance (/min : +- 5
Tolongoo	rack travel mm : 4.00 Rated speed rpm : 1225
Tolerance cm3/1000 strokes : 4.0	Rated speed rpm : 1225 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : 6.5	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300
‡	rack travel mm : 4.00
+	Rated speed rpm : 1230
Rack travel in mm: 5.80 Tolerance mm: + 0.10	Tolerance 1/min : +- 15
(D) CETTING OF THISETION OF THE	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
	control lever
GUIDE SLEEVE POSITION	position degree : 85.0 tolerance degree : +- 4.0
control lever +	Control lever difference
position degree : -3	Grad : 18.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50 Tolerance mm: : +- 0.20	Setting point w/out bumper spring
+	Rated speed rpm : 450
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.30 Tolerance mm : +- 0.10
+	
Rated speed rpm : 1100 + Aneroid pressure +	Rated speed rpm : 100
hPa : - +	CRT mm min. : > 19.00
Del. quantity +	Toother
cm3/1000 strokes : 104.5 +	Testing:
cm3/1000 strokes : + 1.0 +	Rated speed rpm : 450
Check tolerance + 3.0 +	rack travel mm : 5.80 Tolerance mm : + 0.10
Spreed +	TOCET OF THE TOCK
Tolerance	TODOUT CONTROL
cm3/1000 strokes : 4.0 + Check tolerance	TORQUE CONTROL Rated speed rpm : 1100
cm3/1000s. : 6.5	rack travel mm : 11.25
·	Tolerance mm : +- 0.05
CONTROL LEVER	Rated speed rpm : 750 rack travel mm : 12.10

Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa :

Rated speed rpm : 750

Del. quantity

cm3/1000 strokes : 113.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50

Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 148.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Rack travel in mm: 5.80 Tolerance mm: + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 02.06.97 : ISO 4113

Test oil

Combination No. : 0 402 736 852

Injection pump

Pump designation : PES6P12OA12ORS7332

EP type number : 0 412 726 909

Governor

Governer design. : RQV350...900PA964

: -25K

Governer no.

: 0 421 815 418

Cust. part No. : 3927923

Customer-spec. information Customer : CDC : 6CTA-A Motor

Power KW

: 205.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Tolerance bar : ← 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar

Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Tolerance bar : +- 1.0

: 4.00 Prestroke mm

Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 5.50

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

Barrel no. : 1

BASIC SETTING

900 Rated speed rpm :

Rack travel in mm: 15.25

Tolerance mm : +-	- 0.05	
Del. quantity cm3/1000 strokes :	239.0	CONTROL LEVER
Tolerance cm3/1000 strokes : +-	- 1.0	control lever position degree : 119.0 tolerance degree : +- 6.0
Check tolerance cm3/1000s. : +-	- 4.0	RATED SPEED rack travel mm : 13.90 Rated speed rpm : 1075
Spreed		Tolerance 1/min : +- 15
Tolerance cm3/1000 strokes :	5.0	rack travel mm : 4.00 Rated speed rpm : 1230 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. :	9.0	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1400
Rated speed rpm :	375	
	7.00 - 0.10	LOW IDLE
cm3/1000 strokes :	27.0	
Tolerance cm3/1000 strokes : +-	- 3.0 +	control lever position degree : 70.0
Check tolerance	-	tolerance degree : +- 6.0
cm3/1000s. : + Spreed	- 5.0 +	Control lever difference
Tolerance	+	Grad : 49.0
cm3/1000 strokes : Check tolerance	8.0	tolerance degree : +- 4.0
cm3/1000s. :	12.0	Setting point w/out bumper spring
(B) SETTING OF INJECT	TON PLIMP	Rated speed rpm : 275
WITH GOVERNOR	+	CRT mm min. :> 8.10
		Testing:
FULL LOAD DELIVERY AT	FULL LOAD STOP	Rated speed rpm : 375
Rated speed rpm :	900	rack travel mm : 7.00 Tolerance mm : +- 0.10
Aneroid pressure	+	
hPa : Del. quantity	1200 +	Rated speed rpm : 425
cm3/1000 strokes :	239.0	TOROUT CONTROL
Tolerance cm3/1000 strokes : +-	- 1.0	TORQUE CONTROL Rated speed rpm : 900
Check tolerance	+	rack travel mm : 15.25
cm3/1000s. : +- Spreed	- 4.0	Tolerance mm : +- 0.05
Tolerance	+	Rated speed rpm : 650
cm3/1000 strokes : Check tolerance	5.0	rack travel mm : 14.35 Tolerance mm : + 0.20
cm3/1000s. :	9.0	
	+	Rated speed rpm : 1000

rack travel mm Tolerance mm		† †	Aneroid pressure hPa : -
NEROID/ALTITUDE		<u> </u>	Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 99.0
		+	Tolerance
TTING		‡	cm3/1000 strokes : +- 1.0 Check tolerance
ted speed rpm	: 900	1	cm3/1000s. : + 3.0
essure hPa		Ŧ	
ated speed rpm	: 1000	Ŧ	STARTING FUEL DELIVERY
ressure hPa rack travel mm	9.70	1	Rated speed rpm : 100
olerance mm		Ţ	rack travel mm : 11.40
		1	Tolerance mm : + 0.50
MEASUREMENT		+	Del. quantity
		+	cm3/1000 strokes : 180.0
Rated speed rpm	: 900	†	Tolerance cm3/1000 strokes : +- 20.0
Pressure hPa	: 825	I	Check tolerance
ack travel mm	: 13.80	1	cm3/1000s. : +- 25.0
olerance mm	: ← 0.20	+	
ressure hPa	: 370	Ī	
ack travel mm		+	
olerance mm	: ← 0.05	†	LOW IDLE
art interlock		 	Rated speed rpm : 375
art intertock		I	Rack travel in mm : 7.00
ated speed rpm	: > 100	1	Tolerance mm : + 0.10
Rated speed rpm		+	Del. quantity
		+	cm3/1000 strokes : 27.0
heck	. > 00	†	Tolerance
speed 1/min	: > 80	<u>†</u>	cm3/1000 strokes : +- 3.0 Check tolerance
Check speed 1/min	: < 300	I	check toterance $cm3/1000s$. : +- 5.0
AMARIA ILIUTI		1	Spreed
		+	Tolerance
FUEL DELIVERY CHA	ARACTERISTICS	+	cm3/1000 strokes : 8.0
		†	Check tolerance cm3/1000s. : 12.0
Aneroid pressure		I	CHID/ 10003. : 12.0
nPa	: 1200	1	
lated speed rpm		+	
el. quantity		+	
m3/1000 strokes	: 226.5	+	
olerance		†	End of test specification she
m3/1000 strokes	: ← 3.0	†	
Check tolerance cm3/1000s.	: +- 6.0	I	
Spreed		1	
olerance		+	
m3/1000 strokes	: 8.0	+	
neck tolerance	40.0	+	
3/1 00 0s.	: 12.0	†	
		+	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.02.97 Test oil : ISO 4113

Combination No. : 0 403 466 152

Injection pump

Pump designation : PES6MW100/120RS1238 EP type number : 0 413 406 237

Governor

Governer design. : RSV500...1100MW0A368

Governer no. : 0 420 085 251

Cust. part No. : 3926878

Customer—spec. information Customer : CDC Motor : 6 CT

Power KW : 143.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. *C : 40 Tolerance *C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.80 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 8.00

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 15.00 Difference * CS : 2.00

	+
DACTO OFFTING	governor spring
BASIC SETTING	<pre>pre-tension click setting x : 3.25</pre>
Rated speed rpm : 1100	
All the state of t	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 11.00	+
Tolerance mm : +- 0.05	+ Rated speed rpm : 1100 + Aneroid pressure
Del. quantity	+ hPa : 900
cm3/1000 strokes : 132.0	+ Del. quantity + cm3/1000 strokes : 132.0
Tolerance	Tolerance
cm3/1000 strokes : +- 1.0	+ cm3/1000 strokes : + 1.0
Check tolerance	+ Check tolerance - cm3/1000s. : + 4.0
cm3/1000s. : +- 4.0	Spreed
Spanned	+ Tolerance + cm3/1000 strokes : 4.0
Spreed	Check tolerance
Tolerance	+ cm3/1000s. : 7.5
cm3/1000 strokes : 4.0	‡
Check tolerance	
cm3/1000s. : 7.5	+ CONTROL LEVER
	control lever
Rated speed rpm : 500	+ position degree : 94.0 + tolerance degree : +- 4.0
Rated speed rpm : 500	+ coterance degree : + 4.0
Rack travel in mm : 5.15	RATED SPEED
Tolerence mm : +- 0.10 Del. quantity	+ rack travel mm : 10.00 + Rated speed rpm : 1160
cm3/1000 strokes : 22.5	+ Tolerance 1/min : + 5
Tolerance	+
cm3/1000 strokes : + 2.0 Check tolerance	+ rack travel mm : 6.00 + Rated speed rpm : 1230
cm3/1000s. : +- 4.5	+ Tolerance 1/min : + 5
Spreed	rack travel mm : 1.00
Tolerance cm3/1000 strokes : 3.5	+ rack travel mm : 1.00 + Rated speed rpm : 1400
Check tolerance	+
cm3/1000s. : 5.5	- rack travel mm : 6.00 - Rated speed rpm : 1230
	Tolerance 1/min : +- 15
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	İ
GUIDE SLEEVE POSITION	LOW IDLE
GOIDE SPEENE LOSTITON	Ţ
	control lever
control lever position degree : - 3	<pre>position degree : 80.0 tolerance degree : +- 4.0</pre>
Rated speed rpm : 800	+
	Control lever difference
Rack travel in mm : 0.50 Tolerance mm : + 0.20	+ Grad : 14.0 + tolerance degree : +- 4.0

	+ Tolerance mm : +- 0.20
Setting point w/out bumper spring	
Data diagram and E00	†
Rated speed rpm : 500 rack travel mm : 4.65	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 4.65 Tolerance mm : +- 0.10	I TOLL DELIVERY CHARACTERISTICS
Total all the limit	
Rated speed rpm : 100	+ Aneroid pressure
	+ hPa : 900
CRT mm min. :> 19.00	Rated speed rpm : 950
Tunklan	+ Del. quantity + cm3/1000 strokes : 141.5
Testing:	+ Cm3/1000 Strokes : 141.5 + Tolerance
Rated speed rpm : 500	- cm3/1000 strokes : +- 2.0
rack travel mm : 5.15	Check tolerance
Tolerance mm : + 0.10	+ cm3/1000s. : +- 5.0
	+ Spreed
	+ Tolerance
TORQUE CONTROL	- cm3/1000 strokes : 6.0
Rated speed rpm : 1100	+ Check tolerance
rack travel mm : 11.00	+ cm3/1000s. : 9.0
Tolerance mm : + 0.05	†
Rated speed rpm : 750	Aneroid pressure
rack travel mm : 11.70	hPa : -
Tolerance mm : + 0.10	+ Rated speed rpm : 500
	Del. quantity
Rated speed rpm : 1000	+ cm3/1000 strokes : 117.0
rack travel mm : 11.45	+ Tolerance
Tolerance mm : + 0.20	+ cm3/1000 strokes : +- 1.0
Dated aread mm . 050	+ Check tolerance + cm3/1000S. : +- 3.0
Rated speed rpm : 950 rack travel mm : 11.50	+ cm3/10003. : += 3.0
Tolerance mm : + 0.20	I
	+ STARTING FUEL DELIVERY
ANEROID/ALTITUDE	†
COMPENSATOR TEST	+ Rated speed rpm : 100
	rack travel mm : 20.50
SETTING	+ Tolerance mm : +- 1.00 + Del. quantity
SELLING	cm3/1000 strokes : 177.0
Rated speed rpm : 500	+ Tolerance
Pressure hPa : 900	+ cm3/1000 strokes : +- 10.0
	+ Check tolerance
Rated speed rpm : 500	+ cm3/1000s. : +- 13.0
Pressure hPa : -	†
rack travel mm : 10.30	†
Tolerance mm : +- 0.20	
MEASUREMENT	LOW IDLE
Rated speed rpm : 500	+ Rated speed rpm : 500
Rated speed rpm : 500	T rated speed pill . Jud
Pressure hPa : 590	Rack travel in mm: 5.15
rack travel mm : 10.80	+ Tolerance mm : + 0.10
Tolerance mm : + 0.20	- Del. quantity
5/5	+ cm3/1000 strokes : 22.5
Pressure hPa : 545	+ Tolerance
rack travel m : 10.60	+ cm3/1000 strokes : + 2.0

Check tolerance cm3/1000s. ; +- 4.5

Spreed
Tolerance
cm3/1000 strokes : 3.5

Check tolerance cm3/1000s. : 5.5